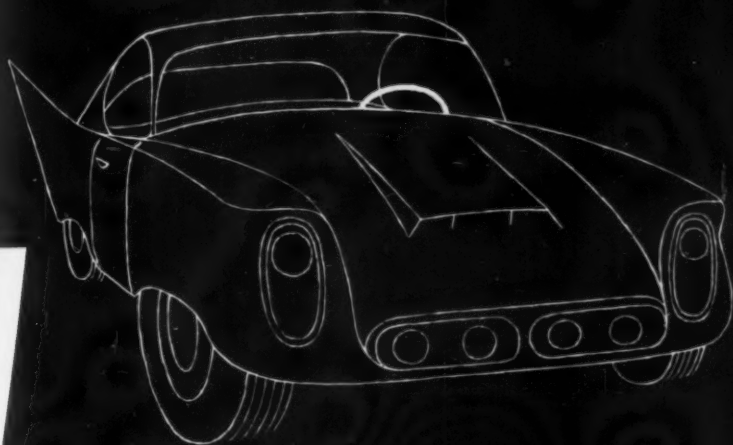


CHILTON'S

# MOTOR AGE

*October, 1959*

# MOTOR AGE AUTO SHOW



A bright new era in new car merchandising opens this month. Turn to page 45 to see the 'designed-for-you' 1960 Automobile Show.

# **AVOIDABLE** causes of overhaul comebacks

## *Oil consumption too high! Blue smoke!*

Overhauling an engine increases manifold vacuum...pushes deceleration vacuum up to new-car levels. In OHV engines this restoration of valve and ring efficiency often gives a tremendous boost to oil loss through valve guides...and increases exhaust smoke. *To avoid:* install Perfect Circle Valve Seals\* when you overhaul the engine.

## *Engine rough at low idle! Sluggish!*

Carburetion and ignition are the popular "suspects", but a leaking manifold may be the answer. Loose valve guides are a common source of manifold leaks. You avoid this source of customer irritation when you install PC Valve Seals.\*

## *Noisy engine!*

Restored valve and ring efficiency accelerate the destruction (and destructiveness) of worn pistons and bearings...causing piston slap and bearing noise. Correcting these conditions is good customer relations...it quiets the engine and extends engine life. To accomplish this quickly and economically (1) Nurlize\* the pistons and (2) check bearing

clearances with Plastigage\* and shim as required with Taper Shim Bearing Adjusters\*.

## *Scuffing or scoring!*

New rings press more firmly and uniformly against cylinder walls...seal better but create more friction. Ring faces run at higher temperatures, inviting scuffing or scoring. To avoid: Practice meticulous cleanliness in reassembling the engine (protects rings and cylinders from an unintentional residue of abrasives that may cause or hasten scuffing or scoring) and use the built-in margin of safety provided by P.C. design and material. Perfect Circle 2-in-1 Chrome\* ring sets are the finest piston rings you can install...deliver consistently good initial performance, consistently long ring life.

\*See your Perfect Circle jobber for these exclusive products...2-in-1 piston ring sets, Custom Made piston ring sets, PC Valve Seals, Manulathe, Nurlizer or Nurlizing service, Plastigage, Taper Shim Bearing Adjusters...automotive products that help you do your job better and faster, at lower cost to your customers...greater profit to you.

# **PERFECT**

PISTON RINGS



# **CIRCLE**

POWER SERVICE PRODUCTS

Hagerstown, Indiana

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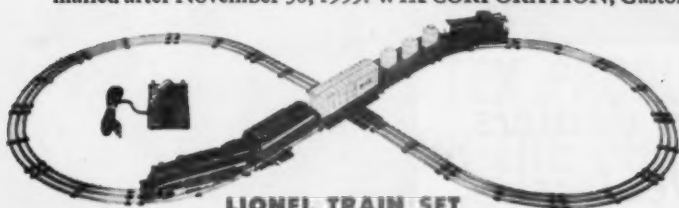
**Make Your Favorite Youngsters  
Happy This Christmas!**

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Your choice of either the sensational Lionel Train Set or the Railroad Accessories Set for only \$12.95, plus C.O.D. charge. (WIX pays the postage). Your WIX Jobber will give you a Certificate, when you make a smart buy of only 24 WIX Oil or Air Filter Cartridges. This entitles you to get either one of these great Sets, worth \$30. You win big two ways—with a small stock of sales-active WIX Filter Cartridges that will turn over fast for you—plus genuine Lionel Trains or Accessories at a fraction of their cost in the store! Call your Jobber right now, or write us direct. Pre-Christmas delivery cannot be promised on certificates mailed after November 30, 1959. WIX CORPORATION, Gastonia, N. C.



**LIONEL TRAIN SET**

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- CABOOSE • 45 WATT TRANSFORMER • 12 SECTIONS CURVED TRACK
- 3 STRAIGHT TRACK • 90° CROSSOVER TRACK • UNCOUPLING TRACK SET
- LOCKON • LUBRICANT • INSTRUCTION SHEET

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- AUTOMATIC CROSSING GATE • 3 BOULEVARD LAMPS
- 12 TRADING CARDS • 52 x 37" COLOR RAILROAD MAP



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# "...won't run out on a dealer or a purchaser..."

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in West Palm Beach, Florida

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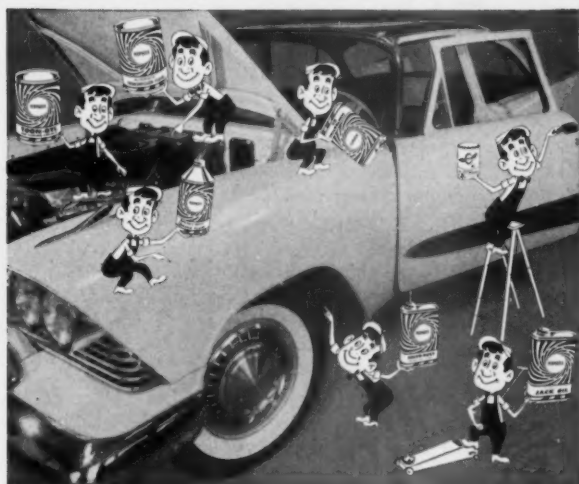




**whatever you clean and polish...**



**whatever you need to seal...**



**whatever needs service oils and fluids... whatever a cooling system needs...**

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Chilton's MOTOR AGE • October 1959



**CHUCK NERPEL**,  
Technical Editor of  
MOTOR TREND, re-  
ports: "We take great  
pleasure in awarding  
the MOTOR TREND  
Seal of Approval to  
GLIDE CONTROL."

## Tested Profit-Maker!

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*The only dependable,  
low-cost constant speed  
stabilizer for any car*

**NATIONALLY ADVERTISED!** Consumer magazines! Trade magazines! Month after month, GLIDE CONTROL prospects are pre-sold through advertising and publicity.

**PROFIT PLUS!** GLIDE CONTROL retails for \$29.50 with a big built-in profit for you. Installation takes less than one hour in ANY car. Installation charge is PROFIT PLUS for the dealer.

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Department MA-10

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OCTOBER 1959

Vol. 78, No. 11

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MOTOR AGE. Published monthly by Chilton Company, Chestnut & 56th Sts., Philadelphia 39, Pa. Second-class mail privileges authorized at Philadelphia, Pa. with additional entry at Easton, Pa. Subscription price: United States, United States Possessions, \$4.00 for one year; \$7.00 for two years, Canadian, Foreign, \$5.00 per year; \$8.00 for two years; single copies, 40 cents. COPYRIGHT 1959 by CHILTON COMPANY.



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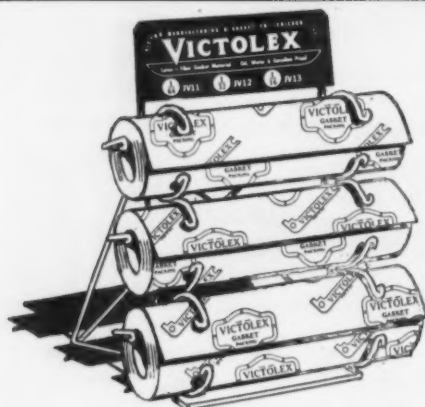
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**TOUGH  
ENOUGH  
TO ENDURE  
A SLIDE  
8½ TIMES  
AROUND  
THE  
WORLD!\***



You may say: "What's so wonderful about that—an engine bearing is supposed to have a lot of endurance." True, but how much is "a lot?" The answer to this question determines to a great extent the amount of mileage you can expect from a bearing.

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BEARINGS**

CLEVITE SERVICE: Cleveland Graphite Bronze • Division of Clevite Corporation • Cleveland 3, Ohio



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2. Disconnect vacuum hose from unit. Remove four mounting nuts and withdraw complete power unit.

### DISMANTLING THE UNIT (Fig. 2)

1. Remove dash mounting plate nuts. Slide plate off of unit and remove mounting plate "O" ring.
2. Slightly compress bellows by hand. Using 3/32" Allen wrench, back off two yoke set screws. Remove yoke and operating rod. Lift off yoke stop-seal washer. Remove "O" ring from operating rod button. (Items 1, 2, 3, 4, 5)
3. Remove four nuts attaching the outer mounting. With a screwdriver, gently pry off the cover. Remove cover "O" ring. Compress bellows by hand and slide valve guide bearing off the guide. Use a small hook to pull the guide bearing seal from within the bearing. Peel back bellows lip from inner mounting plate, holding plate down with one hand to prevent it from snapping out. Remove plate and lift out spring retainer and return spring. (Items 6, 7, 8, 9, 10, 11, 12, 13)
4. At opposite end of unit, remove four hd. screws attaching the base plate. Use a flat blade screwdriver to pry off the base plate. (Items 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100)



WP39-1

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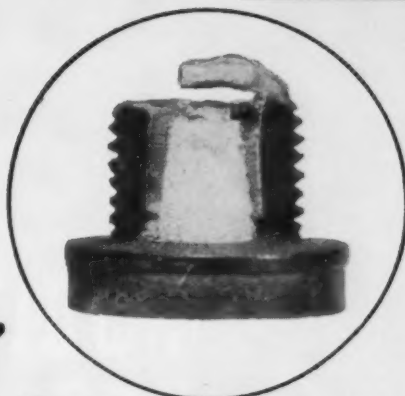


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**PLUS**



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YOUR



SUPPLIER

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NBC-TV, NOVEMBER 13

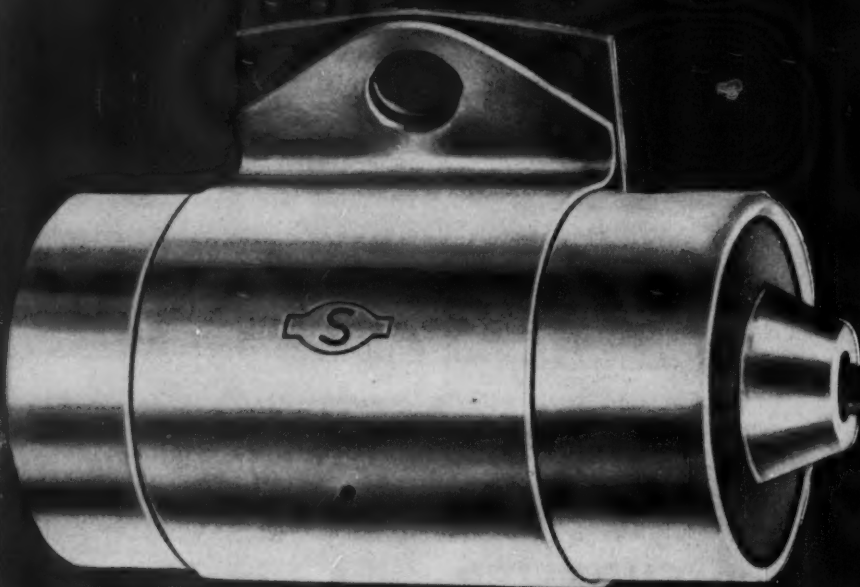
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Another Blue Streak motor in

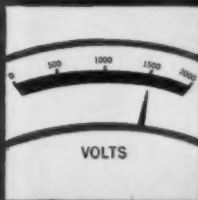
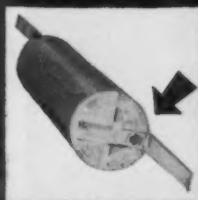
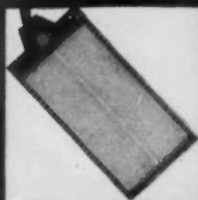


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# BLUE STREAK "SHOCKMASTER"<sup>®</sup> CONDENSER



## BLUE STREAK



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**NEW REMOTE-CUP OUTFIT  
IS MADE TO ORDER  
FOR THE NEW CONTOURS**

**\$93<sup>34</sup>\***

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JCA and MHC  
Spray Guns

Acrylic, enamel, and lacquer finishes require the full wet coverage that the new DeVilbiss Super-Soft-Spray Nozzle provides. Incorporating features found in no other spray head, this new nozzle's improved air-jet action produces ideal atomization with a wide, soft pattern that assures

better adhesion . . . makes lapping easier . . . and reduces rebound that causes excessive overspray. With the Super-Soft-Spray Nozzle you get better flow-out and higher gloss. And thanks to super-precision machining, you get dependable performance even under heavy-duty service.

Both of these new DeVilbiss products will help you get better, faster finishes with *all* materials on *all* models. They're paint-shop profit boosters! Call your nearest DeVilbiss distributor or jobber for complete details, today . . . or, if you prefer, write us direct.

*\*slightly higher in West*

FOR BETTER SERVICE, BUY

## DEVILBISS



**THE DEVILBISS COMPANY**

**Toledo 1, Ohio**

Barrie, Ontario • London, England • São Paulo, Brazil

Branch Offices in Principal Cities

# New G-E HELPEROO speeds up paper work, makes dozens of your daily chores easier

• HANG IT  
• HOLD IT  
• HAND IT

A PAIR OF  
HELPEROOS  
**FREE**

...with a case of 12  
**G-E SUBURBAN  
HEADLAMPS**

The right size to hold practically all your  
forms (6 1/4" x 10")  
Rugged waterproof fiberboard



**Suburban HEADLAMPS**

BUY A PAIR TODAY... SEE BETTER AGAINST ONCOMING CARS TONIGHT

Or get a colorful display plus window streamer **FREE**  
with a case of 12 G-E SUBURBAN Headlamps

## EXCLUSIVE IN G-E SUBURBAN HEADLAMPS... Low Beam Filament On Focus

Up to now most night driving was on the upper beam, so all 7" headlamps had the upper beam filament on focus to provide maximum beam control. Most night driving is now on the low beam, so General Electric has built an exclusive feature into new G-E SUBURBAN Headlamps: the low beam filament is on focus. Drivers get a "spotlight" effect on the low beam... more light down the right side of the road to help them see in spite of the other cars' lights. Watch for General Electric SUBURBAN Headlamp ads this month and next in Saturday Evening Post, Look and Popular Mechanics. And get your free Helperoos with a 12-headlamp case of G-E SUBURBAN Headlamps. Sell headlamps two-at-a-time!



*Progress Is Our Most Important Product*

**GENERAL  ELECTRIC**

IF SCRIBBLING ON CEMENT POCKMARKS YOUR PAPER



IF YOU POKE YOUR PALM WITH YOUR PENCIL POINT



IF YOU USE CUSTOMERS' CARS AS A "SCRATCH-PAD"



IF YOU NICK YOUR KNEE WITH YOUR PEN



IF YOUR DESK'S ALWAYS LOADED WITH LITTER



IF YOUR CUSTOMERS GET WRENCHED-WRISTS FROM  
SIGNING CREDIT CARDS



**THEN YOU NEED A PAIR OF  
G-E HELPEROOS**

**DON'T MISS OUT!** A pair of Helperoos is free with a case of 12 G-E SUBURBAN Headlamps. Contact your General Electric SUBURBAN Headlamp supplier today! General Electric Co., Miniature Lamp Dept. M-908, Nela Park, Cleveland 12, Ohio.

# CUT BODY REPAIR TIME IN HALF WITH NEW BLACK & DECKER METHOD!

## USE RESINS ...



1. Remove paint with B&D Dustless Belt Sander and 16 or 24 grit opencoat abrasive until bright. Flip easy-operating lever and change to 50 grit paper.



2. Create gradual indentation from outside of area to middle and fill with resin. Remember to overfill! Dry with lamp or Butane torch. You are now ready to finish.

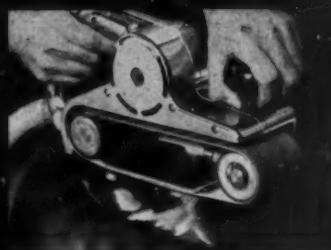


3. Finish sand with B&D Belt Sander. Note how dust is carried away from the work; how Sander front pulley allows you to get into tight spots!



4. On rips and tears, weld, then bump damaged area below level of surrounding metal. Apply resin, then sand with B&D Belt Sander and 50 grit paper!

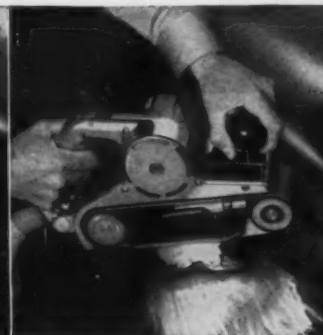
## ... OR LEAD



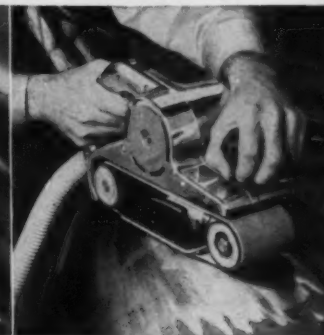
1. After removing paint with B&D Belt Sander and 16 Grit Paper, cross sand in both directions (24 grit) to "mark." Handy knob gives full command of the job.



2. After dinging, repeat cross sanding to recheck. B&D's exclusive gearless transmission keeps your work free from grease or oil spots; greatly reduces noise, too!



3. Work out "chalked" irregularities. Note that B&D's flush side and front belt pulley allow you to work right to edge of the work, give you smooth, even sanding!



4. Flip lever and replace belt with 50 grit for feathering and sanding. Prime coat follows. Belt changes are easy; belts last longer with B&D's Dustless feature!

## So dustless you could paint as you sand

Whether you select the new, fast resins or lead, you'll see a big difference when you use the Black & Decker Dustless Belt Sanding method. It's so dustless, many shops even paint as they sand . . . so fast, most shops even cut job time in half! See it in your own shop. Remember, the best equipped shop gets the business profits!

YOU GET A **Better Value** FROM  
**Black & Decker**  
Quality Electric Tools

MAIL TODAY FOR FREE DEMONSTRATION

THE BLACK & DECKER MFG. CO., Dept. 5110, Towson 4, Md.  
(In Canada: Brockville, Ontario)

- ☐ Set up a free demonstration of the B&D Dustless Belt Sander for me!  
☐ Send me information on.....

Name..... Title.....

Company.....

Address.....

City..... Zone..... State.....



☐ Vacuum Cleaners



☐ Polishers

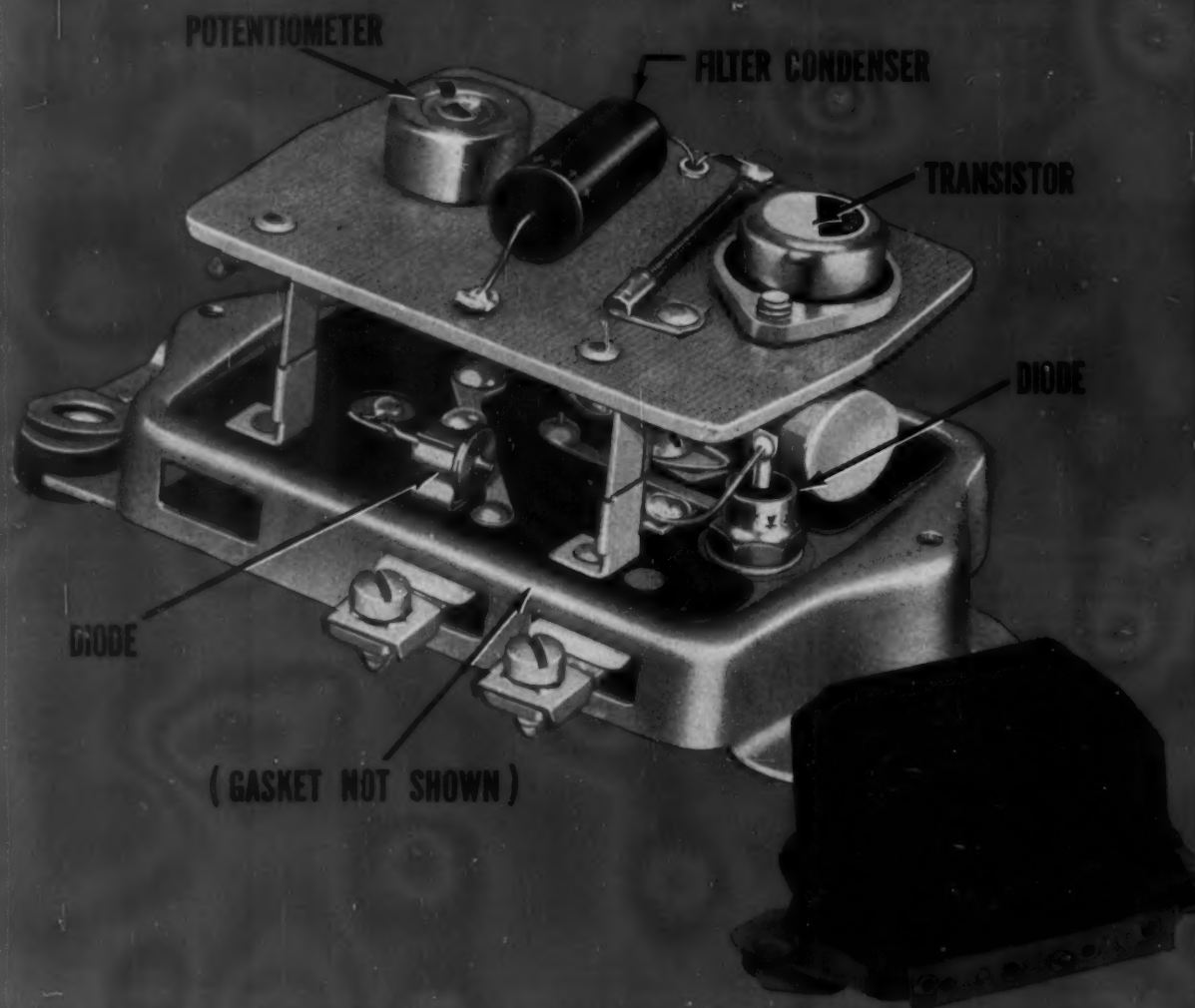


☐ Impact Wrenches



☐ Drills





PROGRESSIVE ENGINEERING MAKES THE DIFFERENCE

## ONLY DELCO-REMY OFFERS FULL-TRANSISTOR

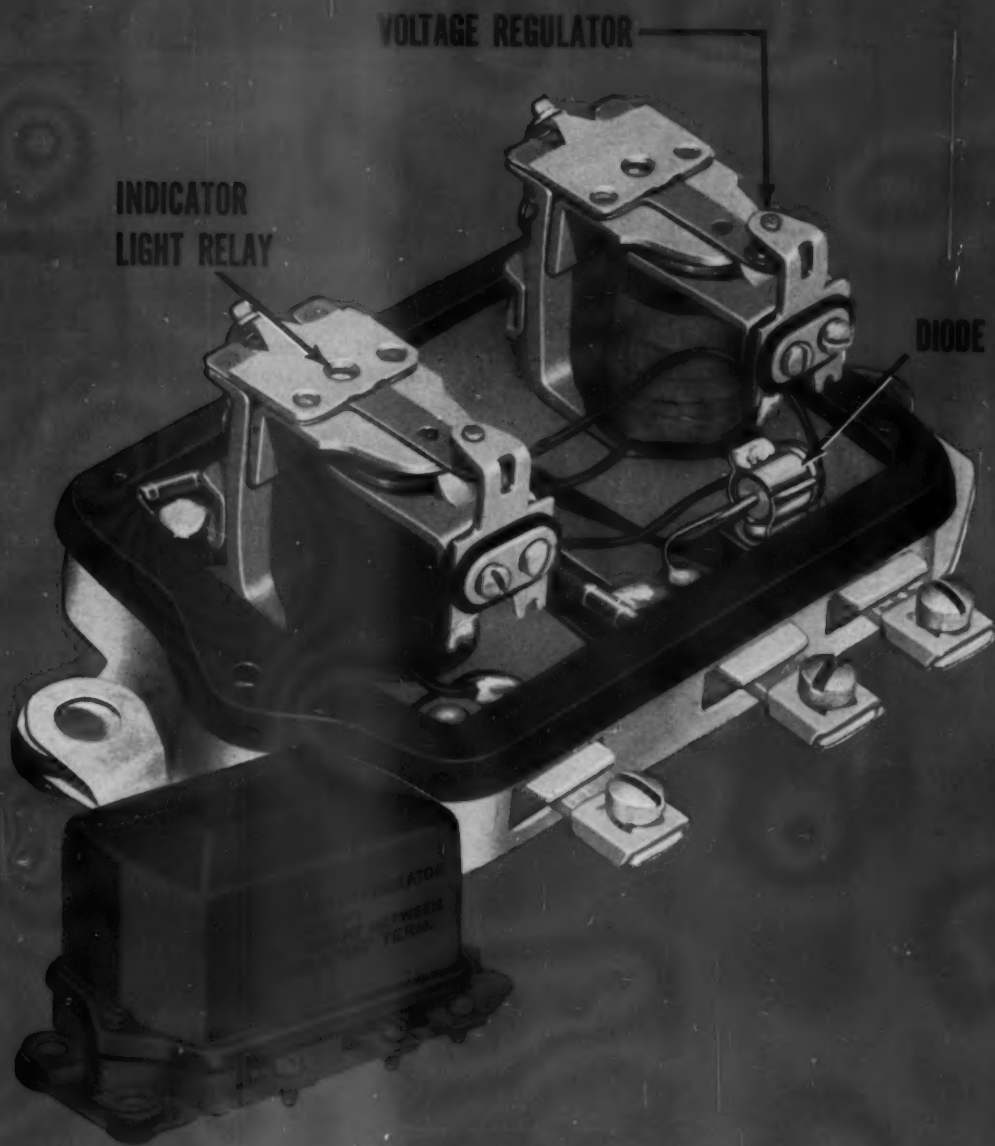
*Designed for use with  
DELCO-REMY'S new self-  
rectifying a.c. generators*

Now you can choose between *two* modern new Delco-Remy regulators—the most accurate available today. One is a full-transistor model, the other transistorized.

The **FULL-TRANSISTOR REGULATOR** has no moving parts and offers the ultimate in accurate electrical performance, durability and reliability. It is composed entirely of transistors, diodes, condensers and resistors, permitting higher field current for better generator performance. Constant voltage control is unaffected by temperature changes, vibration, or mounting position. A simplified external adjusting feature permits easy voltage setting for varying operating conditions. And this full-transistor regulator requires no periodic servicing.

The **TRANSISTORIZED REGULATOR** contains a single transistor and diode working in conjunction with a vibrating-type voltage sensing unit. The transistorized circuit





## AND TRANSISTORIZED VOLTAGE REGULATORS

permits high field current for improved generator performance with low non-inductive current through the contacts for greatly extended contact life. Models are available for circuits containing either ammeters or indicator lights. All units are temperature compensated to better match battery voltage requirements.

Both the full-transistor and the transistorized models have the same mounting dimensions as standard regulators.

Whichever model you choose for your new vehicles or for replacement on present ones, you can be sure of reduced servicing and extended battery life. Available from your car or truck dealer or through the United Motors System.

FROM THE HIGHWAY TO THE STARS



**Delco-Remy**  
ELECTRICAL SYSTEMS

DELCO-REMY • DIVISION OF GENERAL MOTORS • ANDERSON, INDIANA

# McQUAY- NORRIS

makes the finest engine and  
chassis parts in the world



Complete line. Broad coverage.  
Highest quality. Easy to install.  
Fast, nearby service.

**McQUAY-NORRIS MANUFACTURING CO.**  
**ST. LOUIS • TORONTO**

# NO OTHER UNIT LIKE IT!

MODEL 640-110

## ARO-PAK

### Portable Air-Charged LUBRICATOR For Easy On-or-off Lift Service . . .

Now you can save time and labor . . . step up volume and profit on your lube jobs with an ARO-PAK!

You'll find this exclusive ARO product beats hand gun greasing by a mile! It's air charged to assure smooth handling of heavy grease even in cold weather. It's light in weight and fully portable for easy one-hand operation. ARO-PAK holds 5 lbs. of grease so you can lubricate far more fittings between refills. It has ARO's famous booster control handle to give you fast, volume delivery of grease with plenty of power for toughest fittings. It's ARO-built . . . backed by nearly 30 years of lube equipment know-how! Look into ARO-PAK now for your needs in lube service, truck lubrication or as a standby unit for special calls.



**FAST, EASY REFILL** from your regular chassis lubricator.



**SAVES TIME IN ON-OR-OFF LIFT SERVICE.** Has handy strap for one-hand operation.



**TRUCK LUBRICATION** is fast and easy with an ARO-PAK. Sealed unit keeps grease clean.

### Exclusive Features:

- **PERMANENT AIR PRIME.** Air charge lasts for months.
- **BOOSTER CONTROL HANDLE** builds pressure for toughest fittings.
- **LARGE CAPACITY,** holds 5 lbs. of grease.
- **LIGHT WEIGHT, PORTABLE** with strap for easy carrying.
- **FAST, CLEAN, VOLUME DELIVERY** of grease, even in cold weather.
- **ONE-YEAR WARRANTY** assures complete satisfaction.



**Ask for Free Demonstration . . .**  
just call your jobber, or write:

**THE ARO EQUIPMENT CORPORATION**  
Bryan, Ohio

Aro Equipment of Canada, Ltd.; Toronto 15, Ontario  
Factory Branches: Detroit, Chicago, Elizabeth, N. J.  
Los Angeles, New York City, Minneapolis-St. Paul  
Offices in All Principal Cities

**ARO** **LUBE EQUIPMENT**  
Automotive • Farm • Industry  
30 years of know-how

## 'STATION BREAKS'

HEY, JOE! GET A LOAD OF THE BIG PRIZE GIVEAWAY PUROLATOR'S RUNNING THIS YEAR!



WOW! \$126,000 WORTH OF MERCHANDISE WAITING TO BE WON!

YES—AND THERE'S NOTHING TO BUY OR SELL. MAN, THIS IS EASY!



ALL WE GOTTA DO IS PUT A PUROLATOR "SEAL OF PROTECTION" STICKER ON EACH CAR THAT DRIVES IN...



AND FILL OUT THE PUROLATOR PRIZARAMA ENTRY THAT'S PEELED OFF THE STICKER FIRST."

Entry PUROLATOR \$126,000-'59 PRIZARAMA  
Drawings (June-July) (Aug-Sept) (Oct-Nov)

Your Name John Doe  
Dealer Address 115 Green St.  
City & State Anytown, State  
Customer License & State Pn. 55 H20  
Mail to BOX 1606, NEW YORK 46, N.Y.  
Place sticker on car. Fill out entry. Mail in. No limit to entries.

GET RULES AND DETAILS FROM YOUR PUROLATOR SUPPLIER

THERE'S NO LIMIT TO ENTRIES... AND ONLY US GUYS WHO WORK IN SERVICE STATIONS, GARAGES AND CAR DEALERS CAN ENTER.



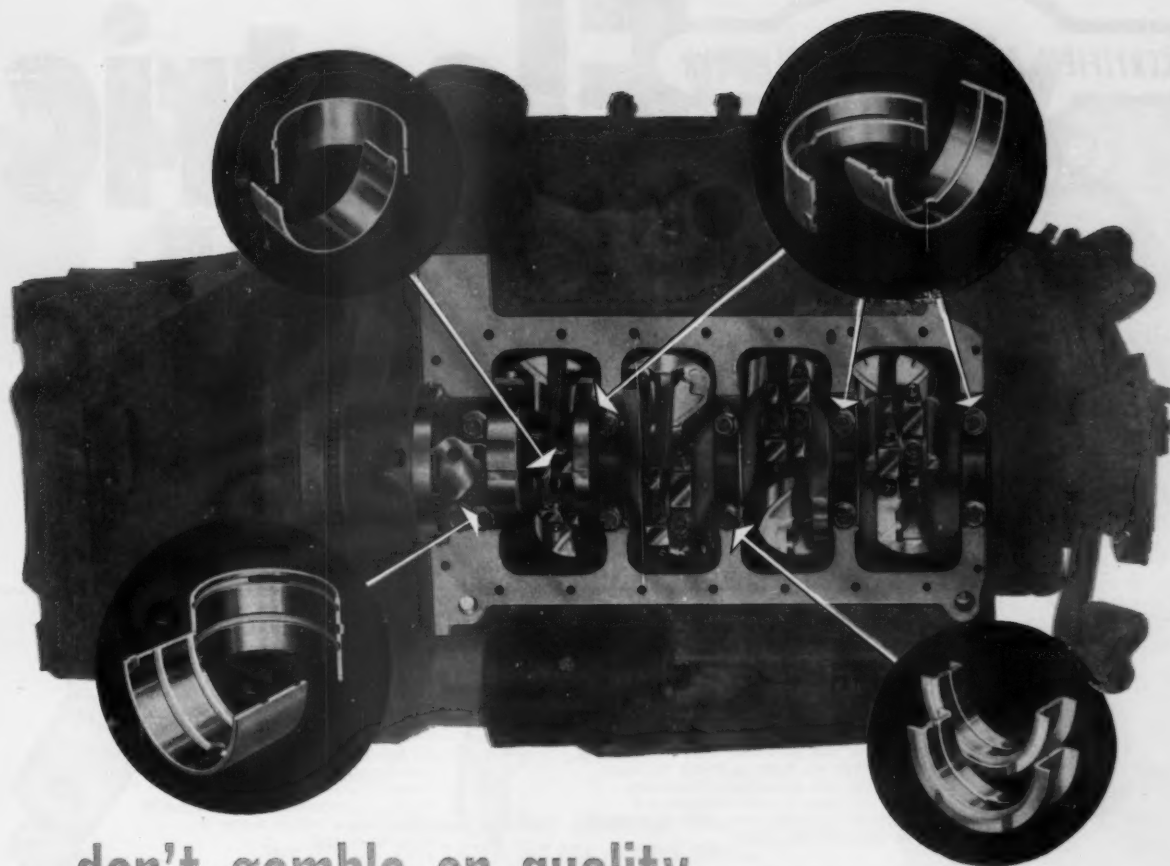
THIS PUROLATOR PRIZARAMA IS FOR ME! WE WIN PRIZES AND MAKE MONEY, TOO!



MAN, WOULD I LIKE TO WIN THAT SWIMMING POOL.

BE SURE YOU ENTER—START SENDING ENTRIES NOW!





## don't gamble on quality, replace with **JOHNSON Engine Bearings**

Here in the heart of an engine—where 26 bearings are concentrated in the short length of a crankshaft—you cannot afford to gamble on quality. Just one faulty bearing can ruin a precision engine re-manufacturing job.

But if you replace with Johnson bearings, you assure the quality of your engine re-manufacturing.

Why? Because high-quality, long-life Johnson con rod and main bearings have the precise size

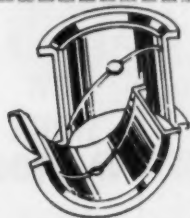
tolerances to fit perfectly every time—the inbred quality to give years of trouble-free service.

Johnson can be relied upon consistently to deliver exacting tolerances and meticulously controlled chemical analyses in steel-babbitt, steel-copper alloy, steel aluminum or any other bearings.

Get your bearings soon from your local Johnson jobber or Johnson Bronze, 455 South Mill Street, New Castle, Pa.

*"Used as original equipment for over 40 years"*

**JOHNSON  
Bearings**



Main Bearings • Cam Shaft Bearings • Transmission Bushings • Con-rod Bearings  
Piston Pin Bushings • Starter, Generator, Distributor Bushings

CERTIFIED

SIoux

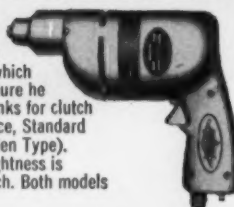
POWER

# Electric Drills

## SIoux ELECTRIC SCREWDRIVERS

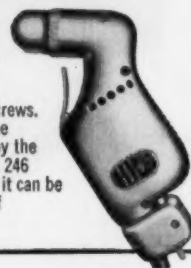
### NO. 260 - 262

On No. 260 Super Screwdriver the operator controls the tightness with which a screw is set by the amount of pressure he applies. The 1/4" Hex Drive takes shanks for clutch head screwdriver bits, Reed and Prince, Standard screws, Phillips, and socket head (Allen Type). On the No. 262 Super Screwdriver tightness is pre-determined by adjusting the clutch. Both models equipped with reversing switch.



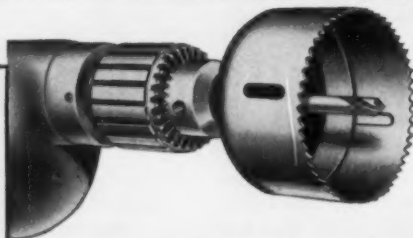
### NO. 242

It fits the hand, and operates in restricted space like no other electric screwdriver. It quickly drives or removes all types of screws. No. 242 has a positive clutch; the operator controls the tightness by the amount of pressure applied. No. 246 has an adjustable clutch, so that it can be preset for any uniform degree of tightness desired.



## SIoux HIGH-SPEED STEEL TEETH HOLE SAWS

will cut holes from 3/8" to 6" in diameter, in any free machining material to a depth of 1 1/2". Alloy or stainless steel may be cut at slow speed. High-Speed teeth welded to chrome-vanadium body give maximum life and cutting ability.



## POWER\* SPECIFICATIONS SIoux ELECTRIC DRILLS

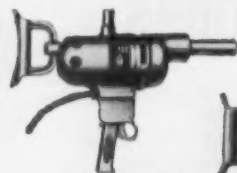
When it's a SIoux you know what it will do

Catalog Number	No Load Speed	H.P. and R.P.M. at Load Speed	Oz. Ft. Torque at Load Speed	H.P. and R.P.M. at Peak Load Speed	Oz. Ft. Torque Peak Load
1475	2250	5/64 1525	4.9	7/64 1050	8.8
1480	1600	7/64 1140	7.9	5/32 790	16.8
1485	1650	3/32 1060	6.9	1/8 620	16.7
1495	1650	3/32 1060	6.9	1/8 620	16.7
1498	400	3/16 275	45.0	9/32 215	108.0
1510	525	27/64 370	95.0	39/64 230	222.0
1517	925	13/32 670	49.0	9/16 540	135.0
1519	1250	13/32 860	37.5	9/16 500	96.0
1525	1650	5/16 1060	31.0	3/8 680	45.0
1541	925	13/32 670	49.0	9/16 540	85.0
1548	925	27/64 370	95.0	39/64 230	222.0
1550	525	7/16 325	108.0	17/32 175	252.0
1560	400	9/16 260	175.0	3/4 155	400.0
1575	400	3/4 205	308.0	1-1/8 125	748.0
1579	350	49/64 200	315.0	1-9/64 115	800.0
1472	1600	13/64 960	17.8	17/64 720	32.4
1473	950	13/64 575	31.6	17/64 430	55.0
1474	625	13/64 375	44.6	17/64 280	84.2
1477	950	13/64 575	31.6	17/64 430	55.0
1478	625	13/64 375	44.6	17/64 280	84.2
1479	1600	13/64 960	17.8	17/64 720	32.4



\*for complete specifications

SEE THE NEW SIoux CATALOG



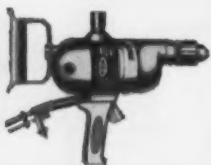
1" H.D. DRILL  
No. 1579



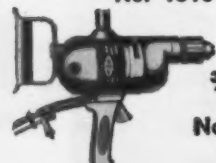
3/8" & 3/4"  
H.D. DRILLS  
No. 1560, 1575



1/2" H.D. DRILL  
No. 1550



1/2" STD.  
DUTY DRILL  
No. 1510



3/8" & 5/16"  
H.D. DRILL  
No. 1517, 1519



1/2" SLOW SPEED  
DRILL No. 1548

# when it's a **SIoux**

## *You know what it will do!*

The Horsepower and torque for each Sioux drill is rated, stated, and certified. It isn't necessary to buy just a drill. When it's a Sioux you know what it will do. See the power specifications for Sioux Electric Drills in this advertisement.

**NEW**

### *Super Powered* **1/4" and 3/8" DRILLS!**

Here is super power to provide all the torque necessary for any operation where this type of drill would normally be used. (See specifications) And there's a speed for every need. It's an entirely new design in which the brushes have been located at the fan position at front of the drill. The advantages include cooler running, and easier inspection and replacement of motor brushes without partial or complete disassembly of the tool. Ball and roller bearing construction, with finest precision gears and mechanical design have achieved a new high in output efficiency.



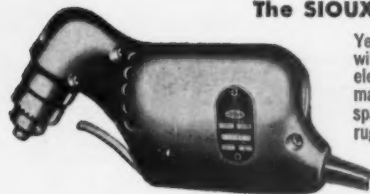
**1/4" No. 1472,  
1473, 1474**



**3/8" No. 1477,  
1478, 1479**

### **All time sales champ**

#### **The SIoux No. 1495 1/4" ALL ANGLE DRILL**



Year after year this is a top seller in the SIoux line. It's popular with almost everyone—auto mechanic, sheet metal worker, electrician, shipbuilder, woodworker, assembly line, factory maintenance man. It fits the hand and operates in restricted space like no other tool. It's a most convenient handful of rugged power.



Leading distributors everywhere display and sell Certified SIoux power drills.

**AUTHORIZED SERVICE AND DISTRIBUTORS IN PRINCIPAL CITIES**



## **ALBERTSON & CO., INC.**

SIoux CITY, IOWA, U. S. A.

AIR IMPACT WRENCHES • AIR SCREWDRIVERS • "PELICAN" NUT ACCUMULATORS • ELECTRIC IMPACT WRENCHES • DRILLS • GRINDERS • SANDERS • POLISHERS • VALVE FACE GRINDING MACHINES • SCREWDRIVERS • PORTABLE SAWS • FLEXIBLE SHAFTS • ABRASIVE DISCS



**3/8" H.D. DRILL  
No. 1541**

**1/4" H.D. DRILL  
No. 1525  
BALL BEARING**



**1/4" H.D. DRILL  
No. 1480 SEMI  
BALL BEARING**

**1/2" LT.  
DUTY DRILL  
No. 1498**



**1/4" DRILL  
No. 1485**



**1/4" DRILL  
No. 1475**

## CHEVROLET



1949



1950



1951



1952



1953



1954



1955



1956



1957



1958



1959

## FORD



1949



1950



1951



1952



1953



1954



1955



1956



1957



1958



1959

## PLYMOUTH



1949



1950



1951



1952



1953



1954



1955



1956



1957



1958



1959

EXCEPT SOME CONVERTIBLES AND FORD 4-55-'59

... service 'em all with only

# 15





Now . . . you can cover Chevrolet, Ford and Plymouth muffler installations from 1949 to 1959 with a stock of only 15 Walker "Precision Tuned" Silencers. This same coverage with any other line requires 24 mufflers at almost  $\frac{1}{3}$  greater investment.

And this is only part of the bold, new, industry-leading Walker Consolidation Program . . . covering 33 important numbers over and beyond recent car factory moves . . . which gives Walker Silencer installers the fastest . . . most profitable turnover in the muffler business . . . with a minimum stock of popular Walker "Precision Tuned" Silencers.

The new Walker Consolidation Program . . . carefully developed by Walker engineers . . . actually "upgrades" all numbers involved. Older models in all cases have been consolidated with newer Walker "Precision Tuned" Silencers which already have improved corrosion and rust protection . . . better sound control with

lower back pressure . . . and at no sacrifice of perfect fit for easier installation.

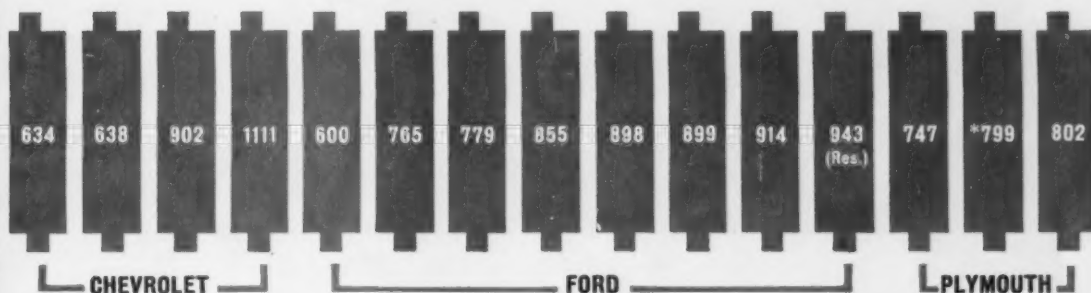
Walker Consolidation is a great forward step to help you offer your customers fast, expert exhaust system service . . . at low inventory cost and high turnover and profit. Ask your Walker jobber salesman to explain the full details of this new Walker Consolidation Program . . . the other cars it covers . . . and how you can make more "Muffler Money" with Walker.

### NEW! IMPORTED WALKER SILENCERS

#### FOR POPULAR IMPORTED CARS

English Ford	Metropolitan	Triumph
Fiat	Opel	Vauxhall
Hillman	Renault	Volkswagen
M-G	Simca	

These 15 Walker precision tuned Silencers are all you need to stock for complete coverage shown



\*Also Dodge, De Soto  
duals '56 to '59

# WALKER <sup>"PRECISION TUNED"</sup> SILENCERS

NEW WALKER-ENGINEERED CONSOLIDATION PROGRAM  
CUTS INVENTORY • INCREASES COVERAGE • SAVES SPACE  
SPEEDS TURNOVER • IMPROVES PROFITS

# Exide guarantees this for 2 full years with no



# new Silver Ultra Start pro-rated adjustments!

*How? Because it is built with  
A-S 57, the exclusive new process  
that solves your "wet" stock problem,  
improves dry-charge activation*

Here's real premium battery sales appeal! A new battery free if the Silver Ultra Start—with Thermo-Shield metallic coating—wears out within two years.\* No pro-rating! No depreciation cost! This new Exide premium battery is designed to last longer than any battery you've ever sold because it is made with the ANTI-SULFATE 57 Process. This exclusive new manufacturing development means more profit for you—and less work. When stocked at 80°F, Exide Silver Ultra Start batteries require recharging only once in 8 months! In fact, you'll probably never have to recharge a "wet" battery again. And the A-S 57 Process assures factory fresh batteries for the car owner whether you handle "wet" or dry charge. Every Silver Ultra Start is factory registered by serial number.

**BIG NOVEMBER-DECEMBER PROMOTION.** Millions of drivers will read about Exide's new Silver Ultra Start battery and its exciting guarantee in Look, Reader's Digest, Coronet, Sports Illustrated, Outdoor Life, Popular Mechanics, Motor Trend, Sports Cars Illustrated. Stock up now on Silver Ultra Starts. Call your Exide distributor today. Or write Exide Automotive Division, MA-10, Box 6266, Cleveland 1, Ohio.

\*In the car for which it was purchased, and in normal non-commercial passenger car service.

*Stop puttering, start profiting! Stock  
up on new Silver Ultra Starts in  
time for the big rush. Get in touch  
with your Exide man today!*

**When it's an Exide...you start making money!**



## I know from experience . . .

. . . Pedrick rings are right for any job—and there's a right Pedrick ring for every job—no matter how tough the service or how tight the customer's budget. For the most exacting jobs, demanding premium performance and longest life, there isn't a ring in the world that will equal Pedrick Formflex. However, Pedrick also has fine-performing products for those jobs where price may be the most important consideration of a customer. So—whatever my piston ring needs—Pedrick has what I require. That's why I stick with Pedrick. . . It will pay you to do the same. See your jobber.

WILKENING MANUFACTURING Co., Philadelphia 42, Pa. In Canada: Wilkening Manufacturing Co. (Canada), Ltd., Toronto 2.

DEPEND ON

***Pedrick***  
FOR THE RIGHT RING JOB



# The biggest problem facing today's WHOLESALE



**BY J. L. (JACK) WIGGINS**  
Executive Secretary, Wholesalers  
Division, Automotive Service  
Industry Association

*Indiscriminate expansion of redistribution is seen as danger*

**T**HERE is no doubt in my mind that the biggest single problem, obstacle, question or issue facing the automotive wholesaler today is the indiscriminate expansion of redistribution within our industry. This includes the problems facing manufacturers, warehouse distributors, redistributing wholesalers, and wholesalers in connection with the reporting and policing of such sales.

The A.S.I.A. Wholesalers' Board of Managers, at its recent meeting, gave this matter a great deal of serious study. This Board originated a resolution which was subsequently passed by the Association's full Board of Directors. This called attention to the fact that the rapid

expansion and growth of various types of redistribution "afford opportunities for some manufacturers to fail to require, and for some redistributors to fail to make proper reporting of such redistribution sales, thus multiplying opportunities for commercial bribery and discriminatory illegal price advantage over other competitors." The resolution urged that all manufacturers re-examine their policies so as to eliminate the possibilities for such misuse or cheating.

A special Redistribution Practices Subcommittee of A.S.I.A.'s Marketing Research Committee was appointed which recently held its first meeting. There, it was brought out that one of the major problems in connection with the reporting of such sales to manufacturers was the lack of a simplified, standardized reporting form. Further study of more than fifty reporting forms currently in use disclosed a complete lack of uniformity (with the possible exception as to size). This served to emphasize the chaotic

condition which must be universally prevalent every month in firms attempting to report redistribution sales. A special subcommittee has been assigned the task of coming up with a recommended simplified standardized form on which redistribution claims can be submitted to manufacturers and which it is hoped will be generally acceptable to all segments of the industry.

Another phase of the problem demanding immediate attention and special analysis is the need for industry-wide recognition on the part of manufacturers that factory approval and review at the executive level of accounts sold by redistributors is essential to curb indiscriminate selling. This indiscriminate selling will ultimately result in the deterioration or destruction of established channels of distribution within our industry. Too often the authority to approve these accounts is delegated to the discretion of the manufacturer's field rep-

(Continued on page VII)



Space drawing for the 1960 International Automotive Service Industries Show was held recently in New York. The combination application of Warner Patterson Co. and Las-Stik Mfg. Co. was first capsule drawn. Phil Perkins of Warner Patterson thanks Don Teetor of Perfect Circle Corp., who did the drawing, for this signal honor. Others, left to right: Harry LaTowsky, E. I. DuPont de Nemours; James McGovern, Raybestos Div. of Raybestos-Manhattan; G. H. Goehrig, Blackhawk Mfg. Co.; and Charles Rogers, P & D Mfg. Co. (chairman of JOC).



At left: George E. Howell, well-known Chicago attorney, has been appointed special counsel to Wholesalers Div. of Automotive Service Industry Assn.

H. K. Porter Co. Inc., Thermoid Division, N.J., recently entered its "Thermoid Special" racing car in the Trenton, N.J., National Championship Race. Prior to the race, builder and Thermoid Division chief mechanic, Bill McConnell, posed at the wheel.





A. C. Nelson (right center), president of Nelson Sales, receives the World Bestos distinguished service award from J. W. Greenen, World Bestos manager of replacement sales. Watching the ceremony are Mrs. Nelson and Larry Lathrop, World Bestos district manager.

Virginia Nollen, "Miss Autolite Hyphen," presents Robert H. Davies, president of The Electric Autolite Co., with the first hyphen removed from the corporate name. New symbol adopted by firm is shown above them.



At left: William Jasperson, (right) vice president-Sales of Walker Marketing Corp., explains rust-proofed features of a cutaway Walker muffler to Thomas Becker, purchasing agent and L. R. Vynow, general sales manager of Philadelphia Wholesale Distributors, following PWD's placing of initial order for a carload. Robert Most, Walker's district sales manager, looks on at left.

# THE

# PULSE

# OF

# AUTOMOTIVE

# BUSINESS

## Automotive Wholesaler's Sales and Inventories

Data from Bureau of Census, Dept of Commerce

Region	Sales % of Change		Inventories % of Change	
	July 1959 from July 1958	July 1959 from June 1959	7 Mos. 1959 from 7 Mos. 1958	July 1959 from July 1958
New England	...	+11	...	...
Middle Atlantic	0	-4	+9	+37
East North Central	+17	-3	+13	+15
West North Central	+5	-9	+12	+4
South Atlantic	+5	-2	+14	+10
East South Central	+19	+2	+16	+9
West South Central	+13	-1	+16	+17
Mountain	...	+1	...	...
Pacific	+12	+3	+15	+2
United States	+8	-2	+7	+11

### Monthly Sales of Automotive Jobbers, incl. Tire and Tube Wholesalers\*

All Data are in Millions of Dollars

Month	1959	1958	Per Cent Change
Jan.	\$ 352	\$ 350	+ 0.57
Feb.	333	324	+ 2.78
Mar.	375	337	+11.27
Apr.	392	365	+ 7.52
May	389	371	+ 4.85
June	429	370	+16.10
July	419	397	+ 5.62
Aug.	...	379	...
Sept.	...	389	...
Oct.	...	426	...
Nov.	...	379	...
Dec.	...	391	...
Total—Year	\$4,477	...	...
Total—7 mos.	\$2,609	\$2,513	+ 7.00

### Monthly Sales of Franchised Car Dealers\*

All Data are in Millions of Dollars

Month	1959	1958	Per Cent Change
Jan.	\$ 2,531	\$ 2,357	+ 7.39
Feb.	2,490	2,073	+19.19
Mar.	2,921	2,297	+27.16
Apr.	2,942	2,394	+23.41
May	3,033	2,499	+21.06
June	3,190	2,446	+30.74
July	2,903	2,308	+25.78
Aug.	...	2,212	...
Sept.	...	1,929	...
Oct.	...	2,055	...
Nov.	...	2,205	...
Dec.	...	2,618	...
Total—Year	\$27,373	...	...
Total—7 Mos.	\$19,978	\$16,354	+22.16

### Monthly Sales of Gasoline Service Stations

All Data are in Millions of Dollars

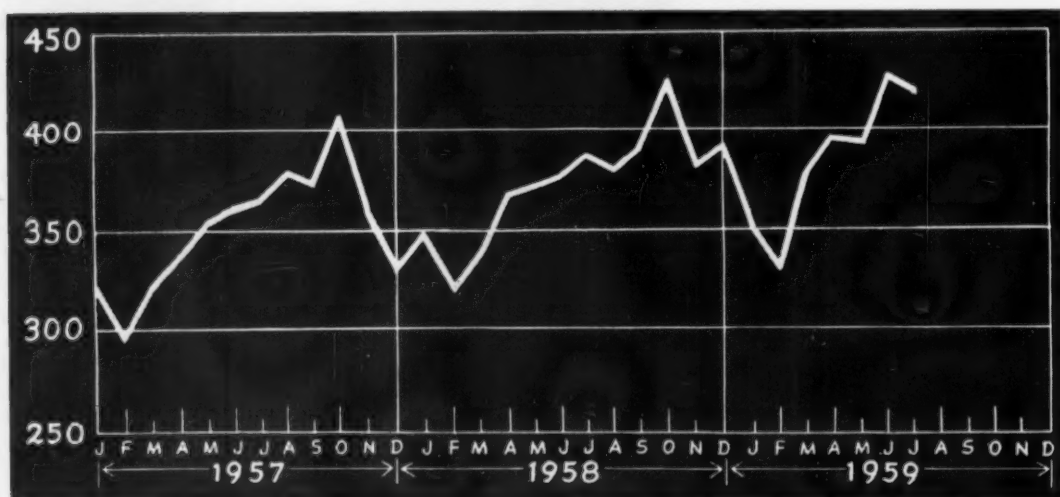
Month	1959	1958	Per Cent Change
Jan.	\$1,282	\$ 1,209	+6.04
Feb.	1,197	1,122	+6.69
Mar.	1,318	1,214	+8.57
Apr.	1,348	1,252	+7.67
May	1,427	1,335	+6.89
June	1,450	1,331	+8.94
July	1,516	1,410	+7.52
Aug.	...	1,448	...
Sept.	...	1,346	...
Oct.	...	1,384	...
Nov.	...	1,330	...
Dec.	...	1,369	...
Total—Year	\$16,750	...	...
Total 7 Mos.	\$9,538	\$ 8,873	+7.49

\* Estimated by the Bureau of the Census.

## MONTHLY SALES OF AUTOMOTIVE WHOLESALERS

### INCLUDING TIRE AND TUBE WHOLESALERS

(All Data in Millions of Dollars)





## NEWSETTES

### Company's Jobbing Operations Ended

On September 25, 1959, Alexander-Seewald Company announced to its customers and suppliers that it would discontinue its jobbing operations. It will now function as an automotive warehouse distributor serving jobbers exclusively.

### Radiator Repair School

Inland Manufacturing Company, recently completed all new facilities for its unique Radiator Repair School. Trainees will learn while actually doing work in shop classrooms. Inland's school teaches all aspects of radiator repair. Course takes one to two weeks to complete. Upon graduation, students are capable of repairing all types of radiators, from the smallest to the largest.

### AEA Tune-Up Charts

The Automotive Electric Association recently announced the release of 1959 Tune-Up Charts with the latest engineering changes and specifications covering all 1959 models of passenger cars.



Elias Fife, photo, founder and Board Chairman of Standard Motor Products, Inc., N.Y. passed away suddenly on August 31. He was a pioneer in the automotive industry.

### New Chicago Branch

Raybestos Division of Raybestos-Manhattan, Inc. has officially opened a new Chicago branch at 4633 So. Knox Avenue. The new building contains 20,000 sq. ft. of warehousing and air conditioned sales office space. The modern one story building also houses a double truck well for speedy handling of all customer orders and incoming materials.

### Vocational Education

The Automotive Service Industry Association has appointed a new Vocational Educational Subcommittee to continue expansion of its "Automotive Instruction in Our Schools" program. The subcommittee is made up of seven wholesaler members, two manufacturer members and one parts rebuilder member. Purpose of the committee is to recommend ways and means the A.S.I.A. membership can form a closer liaison with vocational educators and industry groups throughout the nation so as to help expand and upgrade automotive training programs.

### Biggest Sales In July

Biggest sales month of the year was recorded by automotive wholesalers in July. Their sales, added up by U.S. Commerce Dept., were valued at \$562 million. This amount was \$15 million above that for June, the previous high month. As a group, merchant wholesalers did less well in July than in June. Sales, at \$11.1 billion, were one per cent below June sales.

### WIX Corp. Expands

WIX Corporation has acquired an additional plant located in Dallas, N.C. It is five miles from the main WIX factory. The new plant provides 48,000 additional sq ft of floor space and will handle the firm's finished goods, traffic and shipping departments.



Oct. 16-17—Automotive Wholesalers Association of Louisiana convention, Capitol House, Baton Rouge, La.

Oct. 19-23—47th annual National Safety Congress and Exposition, Chicago, Illinois.

Oct. 21-24—Automotive Wholesalers Association of Texas convention and booth conference, Adolphus Hotel, Dallas, Texas.

Oct. 21-25—Second annual Rod & Custom World's Fair Auto Show; Eastern States Exposition Fairgrounds, W. Springfield, Mass.

Oct. 28-30—Automotive Parts Rebuilders Association, convention and trade show, Hotel Roosevelt, New Orleans.

Nov. 2-5—The Automotive Warehouse Distributors Association Inc., annual convention, Muehlebach Hotel, Kansas City, Missouri.

Nov. 12-14—Florida Automotive Wholesalers Association convention; Soreno Hotel, St. Petersburg, Florida.

Nov. 14-21—Philadelphia Auto Show; Convention Hall, Phila., Pa.

Nov. 13-15—California Automotive Wholesalers Association convention, Miramar Hotel, Santa Barbara, Cal.

Dec. 4-6—Automotive Wholesalers of Illinois convention, St. Nicholas Hotel, Springfield, Ill.

Jan. 16-24—52nd Annual Chicago Automobile Show, International Amphitheatre, Chicago, Ill.

Jan. 24-28—International Foreign and Sports Car Show Dinner Key Auditorium, Miami, Fla.

Jan. 30-Feb. 3—National Automobile Dealers Assn., Washington, D.C.

Feb. 10-13—Automotive Service Industries Assn. Show Coliseum, New York City, N.Y.

# Automotive Wholesalers Associations by States

As a service to its wholesaler readers, Motor Age presents a registration of State Automotive Wholesalers associations. Our listing includes officers, directors and committee chairmen, where possible. Important meeting dates are included where available. List will be continued each month in the Jobber Executive section until all states are listed.

## Alabama

Officers: Carl L. Kennedy, Tuscaloosa, president; N. Gillis Cammack, III, Selma, vice president; W. G. Woolfolk, Montgomery, treasurer; N. Jack Rhodes, Birmingham, immediate past president; John W. Rooney, Montgomery, executive secretary; Automotive Wholesalers' Assn. of Alabama, Inc., 218 Moore Building, 217 S. Court St., Montgomery 4.

Directors: Maxie P. Blalock, Decatur; E. B. Hubbard, Guntersville; Irvin F. Siegal, Birmingham; Lyman O. Weaver, Mobile; James A. Fisher, Montgomery; D. B. Jones, Opelika; Truman H. Southwell, Andalusia; Nathan Greenburg, Dothan; W. Glenn Floyd, Tuscaloosa; A. K. McClure, Gadsden; O. Ray Summerlin, Selma.

Committees: Insurance—Irvin Siegal, chairman; Education—Sam Meadows, chairman; Industry Relations—Jimmie Williams, chairman; Legislative—Matt Laason, chairman; Steering—Jack Rhodes, chairman; Convention committee to be selected from convention city.

Annual meeting, mid-June.

## California

Officers: Rollin McBurney, West Los Angeles, president; Joseph E. Erman, Hayward, 1st vice president; P. Ted Johnston, Los Angeles, 2nd vice president; Robert Wootten, Berkeley, secretary; George Graveline, Beverly Hills, treasurer; A. E. Zimmerman, Modesto, past president; Leslie W. Wyre, Highland Park, past president; James E. Hamilton, Santa Barbara, executive manager; Calif. Automotive Wholesalers' Ass'n., 13<sup>1</sup>/<sub>2</sub> E. Canon Perdido, Santa Barbara.

Directors: Eugene Asher, Redding; Robert Cloney, Eureka; Earl Crawford, El Monte; Dewey Dunn, San Diego; Fred Duttweiler, San Francisco; Al Eddings, Hawthorne; Wallace Glycer, Sacramento; Roy Guth-

ridge, Eureka; J. Leonard Gibson, Inglewood; Kenneth Hickman, Fresno; Jodson E. Holland, Burlingame; James Shattuck, San Diego; S. B. Sturtevant, Van Nuys; Thomas Sutton, Pomona; William Walter, Stockton; George Wanger, Vallejo; Clifford West, South Gate; Robert Wright, Pasadena.

## Connecticut

Officers: Michael Hryb, president; Robert Spivak, New Britain, vice president; Louis Dobey, Bridgeport, secretary; Richard D. Meek, Hartford, general counsel; Connecticut Automotive Trades Association, Inc., Executive Office: 410 Asylum Street, Hartford, 3.

Committees: Shop Labor—Charles Bradley, chairman; Legislative—William Forte, chairman; Education—Alfred A. Sessa, chairman and secretary.

Next scheduled meeting is the annual convention on Nov. 10, 1959 at the Hotel Statler, Hartford.

## Florida

Officers: J. R. Stradley, Jr., Titusville, president; A. H. Hines, Hollywood, vice president; John Engels, Sarasota, secretary-treasurer; Ted Nelson, past president; Edgar H. Rodgers, Jr., past president; W. C. Stephens, past president; Clarence Babbitt, past president; H. V. Bodine, executive secretary.

Directors: Clarence Babbitt, Tallahassee; V. M. Hitzing, Jacksonville; Joe N. McLendon, Tallahassee; L. A. Null, Lake City; A. J. Pockrus, Pensacola; James Wilson, Tampa.

Our next meeting will take place at the State Convention in St. Petersburg, Nov. 12, 13 and 14th.

## Georgia

Officers: Dexter Swannstrom, Atlanta, president; A. J. Barnes, Manchester, first vice president; Lloyd Megahee, Thomasville, second vice president; L. C. Mathews, Atlanta, secretary; R. M. Perrin, Atlanta, treasurer; Henry Clark, Atlanta, executive director; Georgis Automotive Wholesalers Association, Inc., 236 Piedmont Ave., N.E., Atlanta, 12.

Directors: Howard Hout, Albany; Ray Birdsall, Lagrange; Pat Pattillo, West Point; Walter Shonhor, Brookhaven; Jack Verner, Atlanta; Bernie Karp, Atlanta; R. E. Arnau, Dublin; C. W. Beason, Lafayette; Hugh Pritchard, Car-

tersville; Tracy Yeomans, Brunswick; A. J. Jennings, Augusta.

Committees: Insurance—Johnny Doyle, chairman; Business Form—Jack Verner, chairman; Auditing—L. C. Mathews, chairman; Resolution & By-Law—Howard Hout, chairman; Legislative—Allen Chappel, chairman; Annual Meeting & Program—Jack Verner, chairman. Annual meeting held in Nov. of each year. Regular monthly meetings are determined by local circumstances.

## Illinois

Officers: Ralph Silverman, St. Louis, president; Earl Blankenship, Marion, vice president; Earl Hylen, Chicago, secretary; George Werner, Sandwich, treasurer; Harry L. Bellmer, Springfield, executive secretary; Automotive Wholesalers of Illinois, 621 Ridgely Building, Springfield.

Directors: C. A. Anderson, Peoria; Louis F. Guenther, Chicago; Art Johnson, Decatur; William Menghini, Springfield; R. Winn Miller, Galesburg; Morrill Palmer, Joliet.

Committees: Membership—Morrill Palmer, chairman; Finance—Louis F. Guenther, chairman.

Annual convention will be held in Springfield at the St. Nicolas Hotel, on Dec. 4-5-6.

## Kentucky

Officers: Joe B. Wright, Mayfield, president; W. B. McGee, Louisville, 1st vice president; Thomas H. Gill, Bowling green, 2nd vice president; Gaylord E. Pack, Jr., Paintsville, treasurer; George W. Wilson, Lexington, executive secretary; Kentucky Automotive Wholesalers Association, P. O. Box 1088, Lexington.

Directors: Melvin Carter, Paducah; Ben Schardein, Bowling Green; Chester H. Wolfe, Middlesboro; Fred Vescio, Hazard; W. Harvey, Ashland; Claude Huntsman, Maysville; John Sheeby, Lexington; R. E. Potter, Frankfort; Lee Roy, Liberty; Jack Lewis, Louisville; H. W. Waldman, Radcliff; T. E. (Ed) Gipe, Owensboro.

## New York State

Officers: Robert Redden, Syracuse, president; Ray Long, Rochester, vice president; Hubert F. Ives, Syracuse, secretary; Franklin J. Steinhardt, Albany, treasurer.

Directors: Charles Levene, Binghamton; Ray Long, Rochester; W. A. Fleming, Buffalo; Paul Wischerath, Buffalo; Robert Levene, Binghamton;

Gates Weisberg, Syracuse; Floyd Starr, Cortland; T. Gordon Stewart, Niagara Falls; H. F. Ives, Syracuse.

#### North Carolina

Officers: Allen Lewis, Wilmington, president; Harold Rea, Asheville, vice president; N. B. Starling, Raleigh, treasurer; Jesse Jones, Raleigh, executive secretary; George McFarlane, Wilmington, past president; F. C. McLean, Laurinburg, past president; E. L. Brown, Hickory, past president; R. E. Kirkland, Wilson, past president; L. T. White, Raleigh, past president; S. B. Norton, Burlington, past president; North Carolina Automotive Wholesalers Association, Inc., 225 Warren Bldg., P. O. Box 8057, Raleigh.

Directors: S. B. Norton, Burlington, immediate past president; R. E. Kirkland, Jr., Wilson; F. C. McLean, Laurinburg; R. F. Ashworth, Durham; H. L. Flowers, Hickory; Dowd M. Biggers, Charlotte; Raymond Glaser, Charlotte.

Annual meeting is usually held in the spring or early summer and is rotated among various cities in our State.

#### Ohio

Officers: John M. Metzger Columbus, president; Bill Hedges, Portsmouth, vice president; Thomas H. Reynolds, Youngstown, treasurer; Douglas F. Dowdney, Toledo, secretary; William L. Wodicka, Columbus, executive secretary; Cecil J. Barber, past president; Ohio Automotive Wholesalers Association, 3688 Sunset Drive, Columbus 21.

Directors: John Bakan, Dayton; John W. Ashbaugh, Lima; Henry Fickes, Dover; Dwight H. Hazeltine, Fostoria; G. Earl Koch, Cincinnati; Robert Lawrence, Newark; Howard W. Sines, Cleveland.

Committees: Membership—Ralph Gelhot, chairman; Convention—Douglas F. Dowdney, chairman; Publicity—Lew Dorman, chairman; Legislative—Jack Finn, chairman; Yearbook—G. Earl Koch, chairman; Educational—Henry Fickes, chairman; Insurance—W. C. Schultz, chairman.

Annual meeting takes place in either March or April. In 1960 it is tentatively scheduled for March 12-13.

#### Oklahoma

Officers: George Roysdon, Tulsa, president; D. Wayne Sledge, Duncan, vice president; Howard Thomas, Pryor, secretary-treasurer; Tom Payne, Okmulgee, executive secretary; Automotive Wholesalers of Oklahoma, 509 Commerce Bldg., Okmulgee.

Directors: Bobby Thompson, Ada; Joe S. Owens, Kingfisher; Jack Wing, Guy-

mon; Virgil Cowherd, Elk City; Ben Leva, Lawton; Lester Cook, Enid; Ed Renier, Oklahoma City; Jack Rodden, McAlester.

#### Texas

Officers: Fred D. Pinkston, Lubbock, president; W. E. Woods, Houston, first vice president; Yancy Robertson, Dallas, second vice president; Mrs. H. G. Baker, Hillsboro, secretary; Poncho Oatman, Austin, treasurer; T. C. Watkins, Midland, immediate past president; G. C. Morris, Austin, executive director; Automotive Wholesalers of Texas, 1004 Perry-Brooks Building, Austin.

Directors: Tom Merrell, Galveston; Aubrey Byrd, Tyler; Ralph Clark, Grand Prairie; B. B. Divers, Mineral Wells; Carl Garner, Lufkin; D. L. Griffin, Kilgore; Rex Grove, Fort Worth; Ray Hertenberger, Navasota; C. P. Horn, McKinney; Marlin Jentsch, Hearne; Jack Landers, San Angelo; John McClure, Jr., Cleburne; H. G. McElroy, Brownwood; A. O. Miller, Beaumont; John Minyard, Edinburg; Jerry Muggle, Corpus Christi; Dick Naylor, Wichita Falls; Adrian Ochterbeck, Houston; F. G. Pfardrescher, El Campo; O. D. Reed, Lubbock; O. R. Riddell, Hamlin; Bonny E. Roark, Atlanta; Basil E. Ryan, El Paso; Eugene Sams, Austin; Jack Stille, San Antonio; H. R. Thompson, Pampa; Dale Tinnin, Hereford; Joe L. Ward, Jr., Waco; Clyde White, Gonzales; E. H. Whitis, Jr., Victoria; Harold R. Yeary, Laredo.

Committees: Finance—Poncho Oatman, chairman; Industry—L. W. Bar-



Actress Corinne Calvet helps Purolator President, James D. Abeles, left, and James B. Lightburn, Vice President and General Sales Manager pick the winners of a swimming pool, two mink coats and other prizes in first drawing of the Prizarama Sweepstakes contest conducted by Purolator Products.

nett, chairman; Legislative—T. C. Wakins, chairman; Training—Harry Lyman, chairman; Insurance—J. E. Wilson, chairman.

Our 1959 Convention and Booth Conference will be held in Dallas at the Adolphus Hotel, October 21-24.

#### Virginias-Carolinas

Officers: James B. Bagwell, Jr., Charleston, president; Mrs. Clara Kohn Hawkins, Charlotte, vice president; James C. Johnson, Roanoke, secretary-treasurer.

Our regular meeting dates are the third Wednesday and Thursday of March and October.

## Wiggins . . . . .

*Continued from page 1*

representative. He is primarily interested in making a respectable showing of sales volume in his territory and is reluctant to make a careful scrutiny of prospective customers whose true wholesaler status may be questionable. At the redistributors' level, there must be a recognition of their responsibility to make accurate, adequate reports of sales made to wholesalers and to maintain sufficient records over a reasonable period of time to permit auditing of such redistribution sales by suppliers at their discretion.

Manufacturers should be encouraged to review these redistribution sales reports, not only to check their authenticity, but to assist them and their redistributors in analyzing their markets from the standpoint of actual sales in relationship to attaining the desired market penetration without fostering needless over-distribution.

Included in A.S.I.A.'s present plans is the development of a code of responsibility for each classification of firm engaged in each phase of redistribution.

In the brief space afforded it is impossible to outline all the complexities of the deplorable situation facing our industry. A.S.I.A. will continue its efforts of probing into redistribution problems and offering recommendations which it is hoped will be generally acceptable to all segments of the industry.

# Motor Age's

## WHO'S WHO



**Robert M. Burch** has been appointed assistant to E. R. Stroh, vice president and director of sales for The Electric Auto-Lite Company. He will assist in the coordination and implementation of the company's sales effort.

**James A. Marohn** will join Cleveland's Leece-Neville Company as executive vice president.

**M. Scott Rolston** has been appointed Chicago district manager of the Industrial-Automotive Division of The Black & Decker Manufacturing Co. **Paul J. Gagliano** is the Minneapolis district manager, Industrial-Automotive Division. **Ralph W. Janelli**, Chicago district manager of the company's Hardware Division will add the Minneapolis district to his responsibilities. **Jay T. Redmon** has been appointed Cincinnati district manager of the company's Industrial-Automotive Sales Division.



**Byron K. Fletcher** has been appointed vice president in charge of sales of Hastings Manufacturing Co. He succeeds Ross R. Dunn who will remain as a vice president and director of the Corp.



**Bruce E. Cummins** has been named general sales manager, automotive, of General Trading Company, a division of H & B American Corp. He will handle merchandising of automotive equipment in north central states.

**E. Colin Baldwin** has been appointed vice president and general manager of the Sherwin-Williams Co. He will continue as president of the Sherwin-Williams Co. of Canada, Ltd., the position he held since 1958

**Walter P. Cartun** has been appointed to the post of general manager of the General Electric Company's Miniature Lamp Department.



**John P. Casserly**, left, has been named general sales manager of the Automotive Division of The Electric Storage Battery Company. **Robert L. Collins** has been appointed controller of the company's Automotive Division.

**Roy E. Goodwill, Jr.**, has been appointed manager, general products division sales, Central region of Allis-Chalmers Manufacturing Co. **William R. Carlyon** has been appointed manager, general industrial sales, Detroit district, for the company.

**William Boedecker** has been elected vice president of Robert Bosch Corporation.

**Howard Poshusta** will be zone manager for Sealed Power Corporation in Missouri and western Illinois. **Robert E. Ruff** will be zone manager in the Florida and southern Georgia region for the corporation.

**Jack L. Roberts** has been appointed general sales manager of Wells Manufacturing Corporation.



**Ralph W. Doherty** has been appointed director of marketing of the Detroit Aluminum & Brass Corp. In his new capacity he will place emphasis on selling the Michigan engine bearing line through warehouse distributors to automotive wholesalers.

**E. M. Slonaker** has been appointed merchandising manager of Jordan Electric Products Division. He will headquarter in Cleveland.

**Whit Ives** has been named sales manager of Electric Service Systems, Minneapolis. He will direct sales for farm, marine, automotive and export divisions.



**Charles J. Meyers**, photo, has been elected vice president in charge of employee and public relations of Arvin Industries, Inc. **Edward J. Killion** was elected assistant treasurer of the company.



**George F. Krauss**, photo, was appointed advertising manager of the Automotive Division of The Electric Storage Battery Co. **Harry N. Roberts** has been named director of marketing for the Automotive Division.



**James C. McGill** has been named assistant general manager of Electrical Division of McGill Manufacturing Co., Inc. He served as manager of Distributor Sales for two years prior to his current advancement. He is a grandson of the founder of the company.



## MOTOR AGE

# newscoop

Compact Cars Appear  
Mercury Comet Scheduled  
Service Station Sales  
Truck Production Up  
Claims & Counter-Claims  
Small Trucks Planned  
Auto Sales Ahead

### In the days ahead . . . . HERE'S WHAT TO LOOK FOR !!!

(Items gathered and edited by Ed Janicki, Ray Stroupe and Bill Montgomery)

#### Will One Out of Three Be a Small Car Sale?

THEY'RE HERE. The big sales push is on.... During next 12 months, millions will be spent to promote new small car entries.... Results will not be known for some time.

If present crystal ball gazing does not change its course, nearly one out of every three cars sold next year will be a small, compact unit.... Industry is looking for a 6.9 million auto sales year in 1960.... Of that total, upwards of 1 million economy cars are expected to be sold by Big Three makers.

Additionally, American Motors hopes to pour a healthy 550,000 Ramblers into market.... Then there will be roughly another 500,000 to 700,000 expected from imports and Studebaker-Packard, both of which will be competing for their share of the appetizing pie.



#### Eisenhower Presented 'Faith In American Business' Award

NATIONAL TIRE DEALERS AND RETREADERS ASSN. has been complimented for believing in "the integrity of paying our bills".... Treasury Secretary Anderson commented on this belief last month in Washington.

He accepted, for President Eisenhower, the association's first Faith in American Business Award.... Dealers, he said, believe the competitive business system is sound.

#### Small Mercury Comet Goes Into Production Next March

SECOND SMALL FORD CAR WILL NOT BE AN EDESEL, informed sources say.... M-E-L dealers reportedly have been told that second compact car, to go into production in March, will emerge under Mercury banner.... Its name: the Mercury Comet.

Move will make many exclusive Edsel dealers unhappy.... Leaves them with only one product to merchandise—the standard sized Edsel.... The upshot: the few remaining exclusive Edsel dealers, reports say, will be phased out gradually.

Comet will have some styling characteristics of Thunderbird.... It will carry Falcon engine (with slightly higher displacement) and sell for around \$100 more than Falcon.... It'll be built on a 114-inch wheelbase.... Henry Ford II dubbed the Comet the "aristocrat of the economy cars."

## What Effect Will Small Car Have on Medium-Priced Lines?

WILL SMALL CARS AFFECT BIGGER CAR LINES? Many Big Three Officials, particularly those representing medium-priced lines, prefer not to talk about it.... Those who do, pooh-pooh suggestions that their brand will be hurt by compact cars.

However, American Motors' President George Romney reminds them of some not-so-encouraging statistics.... These show that penetration of medium-priced cars stood at 24.6 per cent for first six months compared with 28.9 per cent in 1958 and 32.1 per cent in 1957.... He says they will lose more ground in '60.... Time will provide the answer.

## Cash Sales High At Service Stations

CASH REMAINS BIG FACTOR IN SALES at service stations.... Census Bureau reports cash sales of \$13.1 billion worth of products and services at stations in 1958.... Complete amount spent at stations topped \$15.7 billion.

Motorists charged a much higher percentage of purchases from tire, battery, accessory dealers.... They charged \$1.3 billion worth, paid \$975 million in cash.



## Solving A Pint-Size Problem

WHEN FORD FALCON ENGINE WAS DESIGNED, engineering specifications called for a crankcase capacity of 3.5 quarts—no less, no more.... This poses an obvious problem for service stations.... Oil is packaged in quart containers.... What do you do with the remaining pint of oil left in the fourth open quart?

The last we heard, the service people were dickering with engineers for a solution.... Only logical one at this time is to change oil pan structure.... Either draw it in more, which would reduce crankcase capacity to an even three quarts, or stretch it to take a full four quarts.

## Monumental Expenditures Required To Bring Out New Model

AN EXAMPLE OF MONUMENTAL EXPENDITURES required to bring out a new model can be found at the Dodge Division plant in Hamtramck, Mich.... Company reportedly spent \$30 million to revamp entire plant for production of its standard 1960 car and small Valiant.... All obsolete equipment, including conveyors and other machinery, was sold to a scrap yard for \$38 a ton.

## Bright Outlook For Truck Production

First forecast for truck production for next year comes from Chevrolet Division.... At a press preview of division's 1960 truck line, Herman P. Sattler, Chevy's assistant general sales manager, pegged next year's sales at 970,000 units.

Chevrolet's share, he said, would amount to about 36 per cent of that total.... His reasons for bright outlook: increased spending for capital equipment, including trucks, and a rise in building and residential construction.

## Demonstration Rides Help Sell Cars, Trucks

DEMONSTRATION RIDES WILL BE A MUST in selling 1960 cars, particularly new small cars.... Falcon, Corvair, and Valiant are truly small cars and economy cars.... But the only way to show their superiority over imports is by having customers ride them.... Their ride and handling are superior to imports.... However, they have one thing that imports do not have.... That is performance, agility in traffic and at a stop signal.... These small cars are quite capable of holding their own in traffic on streets and highways. This attribute means nothing unless a prospect gets into car and takes it for a short ride.

Same applies to new Chevrolet truck line.... For first time in domestic production trucks have torsion bar suspension at front together with independent spring at front.... New suspension system give vehicle, the load, and driver a new sensation of ride and handling and comfort.... These attributes can't be appreciated by looking.... It is necessary to have driver take the wheel and drive with the vehicle load over a bumpy road.... Dealers and salesmen should always try to get their prospects to drive these new vehicles.

## Law Gives Protection Against Blackmail Picketing

MARKETERS AND SERVICE FIRMS should be aided by new labor reform law.... Public Law 86-257 gives many of them their first protection against blackmail picketing.... It also puts up barriers against secondary boycotts.

NADA strongly sought these protective features.... The association made it plain to Congress that it was not interested in a meaningless labor law.

## Claims And Counter Claims Over New Small Cars

IT'LL BE INTERESTING, IN MONTHS AHEAD, to read the claims and counter-claims in comparisons between new small cars. There'll be plenty of 'em in the hubbub adherent to the birth of any new car.

Ford last month got things off to a flying start. It claimed the Falcon will deliver 30 per cent better mileage than Rambler American, 50 per cent more than standard Rambler Six. George Romney, president of American Motors, quickly countered, saying it ain't so.

He doesn't like his Ramblers to be called "old-fashioned," either. His reply: "If unitized-body Ramblers are 'old-fashioned,' what term is adequate to accurately describe the relative antiquity of their (the Big Three) continued use of separate body-and-frame construction for their standard big cars?" So there.



## Taxes And More Taxes!!

AMERICANS PROBABLY PAY MORE TAXES than they realize.... In 1958, they paid about \$98.3 billion to federal, state, and local governments.... That works out to \$567.63 for each person in the country.

Federal government got the bigger share—\$392.51 per person.... That left more than \$175 per person for state and local governments.

## Scaled-Down Versions Of Trucks Planned

NOW THAT SMALL CARS ARE HERE, there are plans afoot to bring out scaled-down versions of trucks.... Ford last month confirmed reports that company had a small pickup truck in the works.... It is scheduled for introduction sometime next spring.... General Motors reportedly also is considering a smaller, economy commercial unit.

Ford's small truck is designed for a market which division vacated when it dropped its Ranchero pickup truck.... Like the Ranchero, the smaller truck will be built on a passenger car chassis.... In this case, the Falcon chassis.... Front end styling will be identical to Falcon passenger car.

## Twenty Year High In Number Of Cars Scrapped

COUNTRY'S AUTO POPULATION grew by less than  $\frac{1}{2}$ -million units last year.... Sounds incredibly small, until you look at some figures.

Reason for slow growth last year: a 20-year high in the number of cars scrapped.... While total sales last year reached 4.6 million, there were more than 4.2 million cars that headed for the scrap heap.... Result is that the increase in total registrations amounted to only 431,000 cars.... This year's increase is expected to exceed 1.7 million cars.

## Auto Sales Moving At Healthy Clip

AUTO SALES ARE ABOUT 40 PER CENT AHEAD of last year.... Despite foreign competition, industry looks for a 6.5 million sales year.... Production for the first eight months totaled 4.09 million cars versus 2.75 million in the like 1958 period.

Ford scored the largest gain.... Output was more than 60 per cent ahead of last year.... General Motors was up by 35 per cent; Chrysler, about 30 per cent.... Chevrolet topped Ford in the number of units turned out during the eight-month period: 1.12 million to 1.07 million units.



## Tax Break On Dealer Reserves Favorable

CHANCES OF GETTING A BETTER TAX BREAK on dealer reserves in 1960 look favorable to NADA.... A House-passed bill to help dealers, H. R. 8684, is before Senate Finance Committee.

Bill would allow tax deferment on dealer reserve accounts until money can be drawn on by dealers.... At this stage, a Senate vote next year approving H. R. 8684 seems likely.

## Production Schedules For Compact Cars

PRESENT SCHEDULES CALL FOR PRODUCTION of approximately 181,000 Big Three small cars by end of December, with some 32,000 forecast for Valiant, 49,000 for Falcon and 100,000 for Corvair.... Corvair, first to get into production, built about 10,000 during July and August 10,000-12,000, during September.... Schedules call for 25,000 in October and 28,000 in November and December.

Falcon scheduled about 1,300 for September, 10,000 for October, 12,500 for November and approximately 25,000 in December.... Valiant, last of the three to get into full production, plans to build about 2,000 units in October, 11,000-12,000 in November and 18,000-20,000 in December.



# The High Cost of Mother Hubbard Inventories

By Frank P. Tighe, Editor



*An inventory of parts and material  
is essential to operate efficiently and profitably*

**G**OOD shop operators, be they car dealer service shops, independents, specialty shops, or service stations, know their income depends on two sources: profit on labor and profit on supplies and parts. One without the other is only half a loaf, which, as the old adage goes, is better than none. But who wants to settle for a ticket half way to his destination?

These good operators also know you can't

sell 'em if you haven't got 'em. Competition, always uppermost in their minds, has a big edge on service, profits as well, if it has the necessary inventory of material to do a job quickly and efficiently.

There are hundreds of shade-tree-mechanics with a few tools, little or no equipment and no inventory who in the aggregate do a large volume of business which rightfully be-

*(Continued on next page)*

## Mother Hubbard Inventories

CONTINUED

longs to the well equipped and well manned shop. These small, poorly equipped shops spring up for a good many reasons, not the least of which, is because existing shops have allowed them. If the existing well manned and equipped shops allow their inventories of supplies and parts to dwindle they may expect more and more of this competition, because this type of service outlet has no inventory either, and as a result can give just as good service as the better shops on parts and supplies.

There has been a tendency on the part of shop operators to depend heavily on the availability of supplies from their nearby sources, and allow their own inventories to become lower and lower. They reason that with stocks so close-by there is no reason to invest their money in the same inventory. They reckon without knowing they are paying the cost of this availability.

In 1910 there were few wholesalers in the entire United States. These houses travelled men from Chicago to Texas; from Minneapolis to the Pacific Northwest; from New York to Florida. They called on the then existing service shops and sold them inventories of materials. They made their trips only a few times a year and it behooved the buyer to buy not only wisely but well or risk losing business.

As car population increased more repair shops came into the picture. Closer sources of supply were necessary so these wholesalers appointed what they called Service Stocks whom they sold at preferred discounts. It was their duty to supply a much smaller trade area.

At the same time, as automotive transportation became more and more important, new manufacturers of supplies and equipment came into the picture. They needed outlets for their products. They immediately recog-

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### BARE CUPBOARDS CAN ADD UP TO BARE CASH REGISTERS

Yes, there's a definite relation between the two. 'Bare cupboards' of course mean shelves empty of automotive parts and supplies. Not only may the profit on the parts be lost by failure to carry a good inventory, but the repair job itself may go out the window. Even if it doesn't, the waiting time can prove costly.

This article points up the hidden costs of low, incomplete inventory. The article notes that throughout the growth of the automotive population "there has been a never-ending program of bringing parts and supplies closer to the repair or service outlets." And that each time new steps are added "in the distribution system, there must be an adjustment in costs."

The conclusion: That unlike 'Mother Hubbard' in the illustration at right, the modern service shop owner or department manager will SEE TO IT that ample stocks of automotive parts and supplies are CONSTANTLY at hand.

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nized the so-called Service Stocks as full-fledged distributors with the extreme discount. New wholesalers, of course, sprang up in addition and then the older jobbers started a branch store program to meet this new competition. Later came the era of wholesale distributors who sell to wholesalers and their branches. More recently there has been developed a complex system of internal and external discounts paid by the manufacturers



for performing various distributing services. Many manufacturers, in addition to the above, maintain factory warehouses which in turn sell to the various outlets mentioned.

Today there are approximately 14,000 wholesalers supplying the needs of the automotive trade.

Car Manufacturers have always insisted that dealers maintain adequate inventories based on their service department volume and

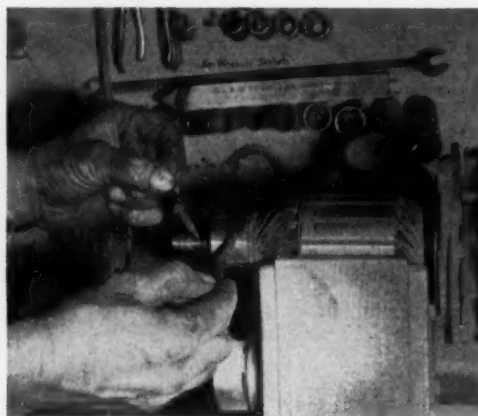
in some cases have made their dealers wholesale outlets to supply the other facets of the trade thus multiplying the availability of supplies.

Throughout the growth of automotive population there has been a never-ending program of bringing parts and supplies closer to the repair or service outlets. Each time new steps are added in the distribution system

*(Continued on page 79)*



1. Disassemble unit by removing long case screws.



2. Test armature for grounds with test light.

## How to rebuild a GENERATOR

*Proper testing of various generator components  
is a must . . . By John K. Montgomery, Technical Editor*

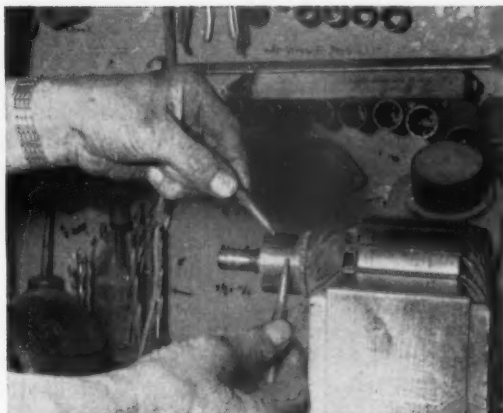
**B**EFORE removing the generator for service, the battery should be checked over first. Check the individual cells to determine their condition. Uneven cell readings could point the finger at a guilty battery. In this case, charge the battery and test again. If the cell checks indicate even readings but voltage is low, check the battery for too rapid charging and dissipation by timing the charging rate. If the battery recovers from a dead condition to a completely charged condition, in ten minutes it should be replaced. Failure to replace a faulty unit will cause over-work and over-heating in the charging system, and future failures. If the

battery is not at fault a test of the generator and voltage regulator should be recommended.

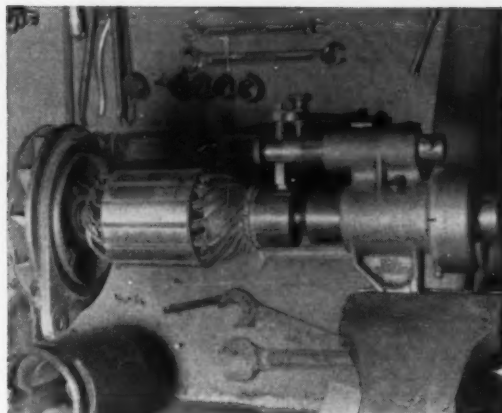
To test, use a volt meter. Set it for the correct polarity of the system undergoing the test. Most testers are designed to check both the generator and the regulator, with one hook-up. Attach the proper leads to the armature terminal of the generator. Attach the other lead to a good ground. Run the engine at constant rpm, about 15 hundred, and read the meter on the prescribed 12 or 6 volt scale. The needle should indicate 7.2 on 6 volt systems or 14.4 on 12 volt systems. If the read-

*(Continued on page 115)*





3. Bar to bar test for shorts or opens. Shorts can also be checked with hacksaw blade on core.



4. The commutator of the generator can be turned on a lathe or a special tool can be employed.

5. Below: Test lighting insulated brush holder.



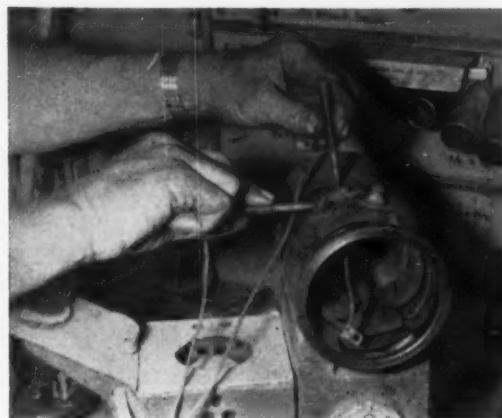
6. Below: Test lighting armature post insulation.

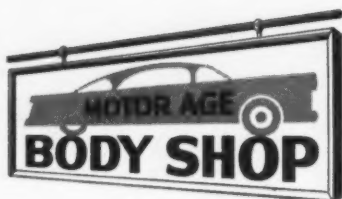


7. Below: If test lamp does not light or is dim, effective field continuity is thereby indicated.



8. Below: If bulb of test lamp lights or glows it indicates that field or terminal is grounded.





**W**HEN the quarter panel is damaged, a great amount of work and expense are involved in its replacement. Replacement involves cutting, welding, fitting and soldering. Let's discuss the methods and reasons for certain procedures. The following procedure should be used if fender panel is damaged beyond regular straightening methods:

Remove the rear seats and the kick plate in the door opening. This is the same for all models. Check the door and deck lid fit to establish the extent of damage. Jack-up the

## Replacing QUARTER PANELS



1. Damage pictured above can be repaired better by replacement than straightening.

*Replacement will involve cutting, welding, fitting and soldering procedures*



2. Cutting quarter panel at desired line below window.

car and remove the skirt (if so equipped) and the wheel. Lower the car onto two horses of equal height (placed under the axle housing) so vehicle is elevated at a comfortable working position. Never try using one horse or supporting the car under the frame because this would cause twisting in the body and future trouble when the car is lowered.

Next, unbolt the rear bumper face bar and remove the tail light assembly. If not damaged it should be re-used. Remove any mouldings that may be reusable and store in a safe

*(Continued on page 136)*



3. Weld or braze along top seam; keep heat from glass.



4. Check door and deck lid fit frequently when welding.



5. Use disc sander to grind surface smooth and fill-in.

8. The completed repair job is now ready for paint booth.



7. Finish straightening while the welded panels cool.



6. Apply tinning compound & solder using soft torch flame.



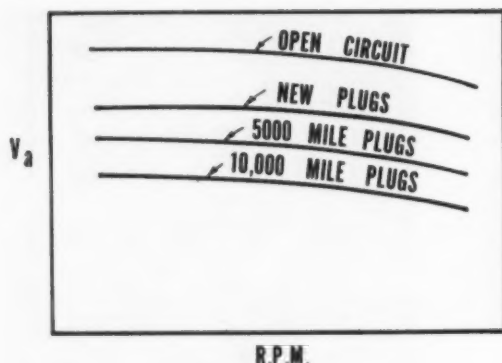
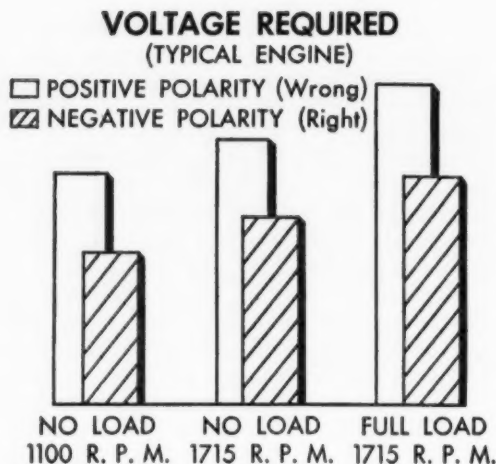


Chart compares the effects of shunt resistance (deposits) on voltage available.



Effect of reversed coil polarity on spark voltage requirement is shown above.

### Automotive School News

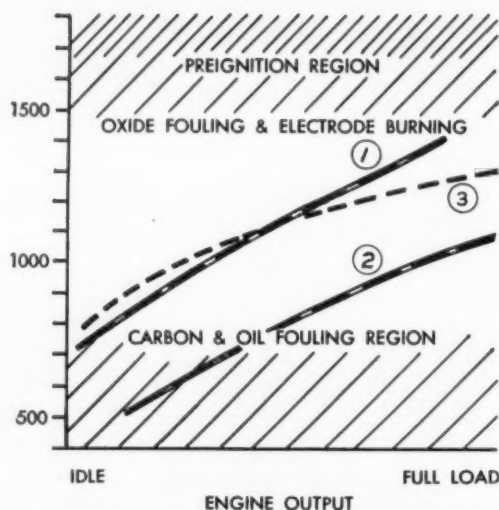
## Advance know-how on ignition performance

*Course gives detailed study to spark plug theory*

**C**HAMPION Spark Plug Company recently completed an unusual training facility in Toledo devoted to the advanced study of ignition system performance. The courses offer both a theoretical and practical approach to analyzing modern ignition problems.

"Ours is strictly a post-graduate school," says George M. Galster, Champion's Service Manager. "For example, participants already know proper methods of setting breaker points. We try to show them, instead, the reasons why certain dwell angles are specified . . . And how this factor can change both ignition voltage and horsepower output at high

*(Continued on page 142)*



The proper spark plug heat range is determined by using thermocouple plugs to survey the combustion chamber temperatures.



# MOTOR AGE AUTO SHOW



**A**UTOMOTIVE history repeats itself year after year. And each new model is like a bright, sparkling matched pearl. Here are the new models. We make no choice, but predict success for each of them. Why do we do this? It isn't that we don't have our preferences—we do! We like compact cars—we like luxurious cars—we like smart, well performing, economical sale cars—and most of all we like competitive cars. All 1960 cars are competitive. In their fashion. Come on thru the 1960 Motor Age Auto Show. It isn't a question of may the best car win. It will!

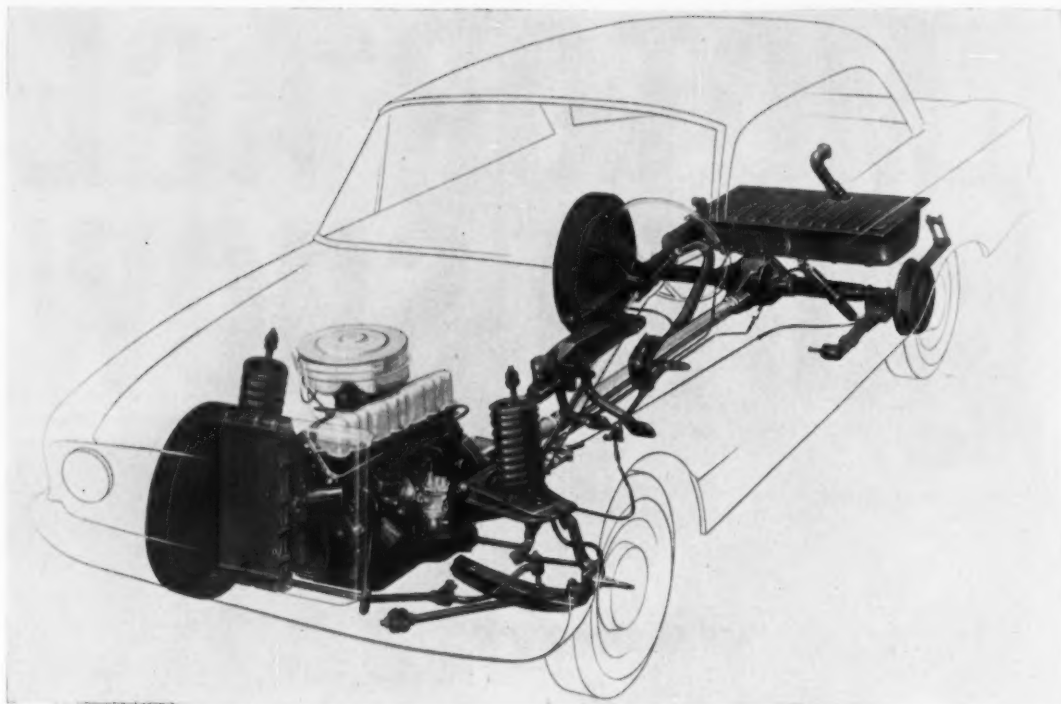


Photo shows arrangement of engine, front and rear suspension of Falcon.

## **FORD FALCON features unitized body construction**

*Simplicity, reduction in number of parts and low weight*

**F**ORD'S new Falcon will accommodate six passengers and acceleration and performance are comparable to the standard Ford Six. The Falcon is available in two-door and four-door sedan models, mounted on 103.5 in. wheelbase.

A feature of the Falcon is a new unitized body construction, eliminating the chassis frame. With this design Ford has developed

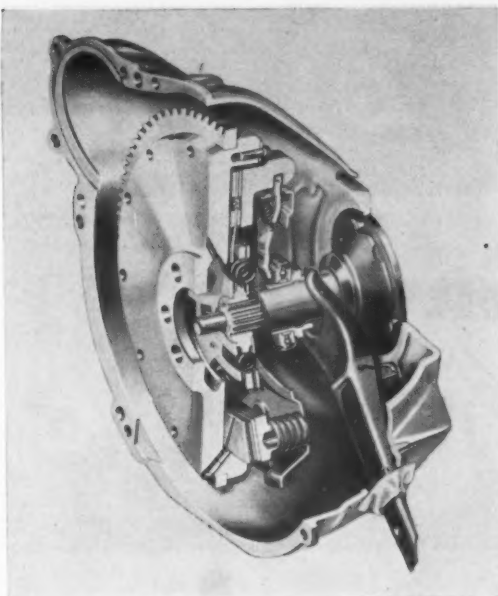
a replaceable, bolted-on front fender.

Everything about the car is new and scaled down to meet gross weight objectives. All units including the six-cylinder engine are conventional in design. The entire car has been tailored for simplicity. The new engine weighs only 345.5 lb.

The Falcon engine has a displacement of 144-cu. in. and is of overhead valve design.

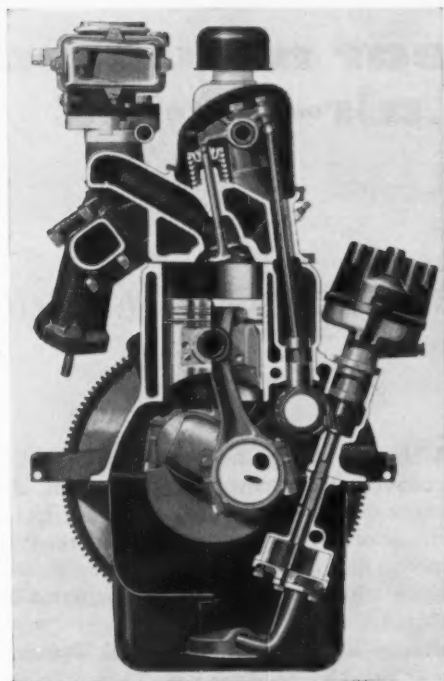


Above: side view of new 4-door Falcon is shown.



Left: Cutaway view of clutch & flywheel assembly.

Front cross section view of the Falcon's engine.



### *shown in Ford's Falcon*

With a bore of  $3\frac{1}{2}$  in. and stroke of  $2\frac{1}{2}$  in., it is oversquare to the extent of 1.4 to 1. All unnecessary cover plates and bolt holes have been eliminated to minimize oil leakage.

While the engine is of cast iron construction the flywheel housing is of aluminum and so is the transmission extension. Horsepower

*(Continued on page 108)*



Above: Four-door model typifies clean, stylish lines of 1960 Corvair.

## CHEVROLET CORVAIR

### rear mounted air-cooled ENGINE

*Car's weight distribution runs 40 per cent on front*

**T**HE Corvair by Chevrolet represents the conversation-provoking concept of the rear-engine mount. The car itself has a wheelbase of 108 inches. In length it reaches 180 inches and is offered in a four-door, six-passenger model in standard and deluxe versions.

Looming larger than any other feature, however, is the rear-engine. This efficient powerplant is air-cooled; it is also a six cylinder flat engine with aluminum structure.

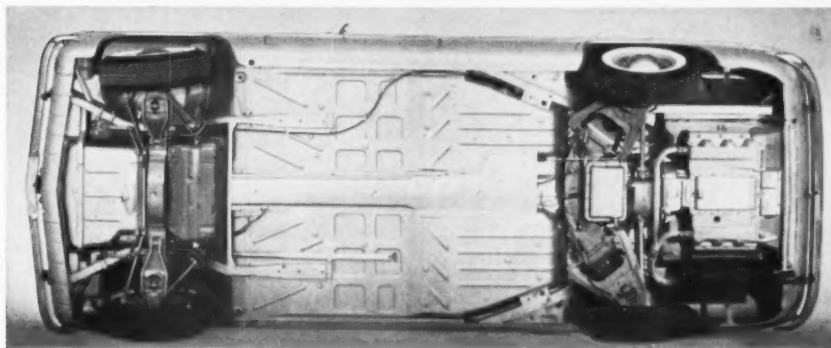
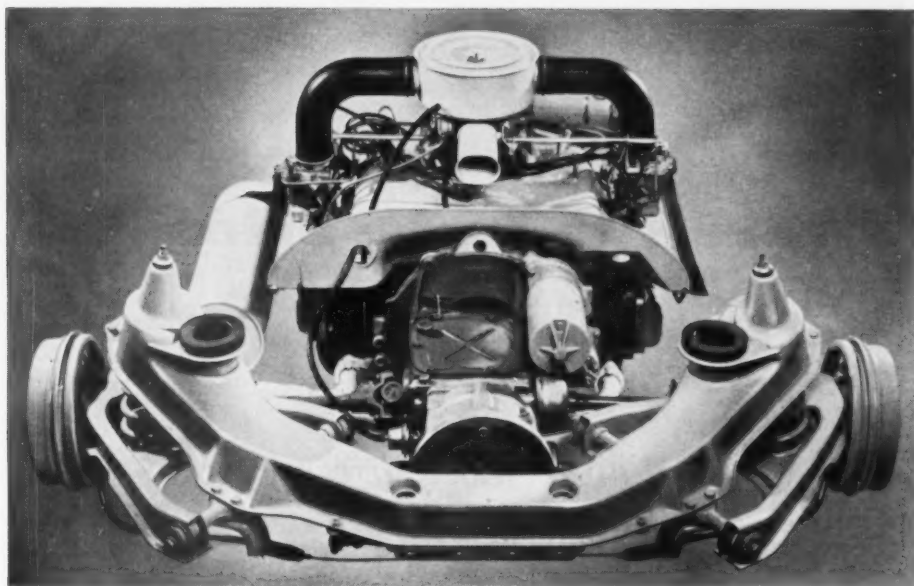
The power package is built as a unit with

engine, and transaxle, the entire package being integrated with its rear suspension.

Weight distribution plays an important role in a rear engine vehicle. On the Corvair they have designed and positioned all components so as to have approximately 40 per cent of the weight at the front, 60 per cent at the rear.

The Corvair engine is a 6-cylinder, horizontally-opposed type, air-cooled engine. The major structural member—the aluminum alloy crankcase—is roughly rectangular in





*and 60 per cent at the rear*

Top above: Rear suspension and engine are integrated. Above (and slightly to left): A "floor pan" view of the Corvair.

shape and is cast in two halves, bolted together at the vertical parting line. It has a relatively shallow-stamped steel oilpan, and a rectangular cast aluminum crankcase cover.

Individual cast iron cylinders are employed. Each bank is secured in place by a cast aluminum cylinder head containing the three combustion chambers for its bank of cylinders. Cylinders and cylinder heads are provided with cast-in-fins. Twelve long studs, four for each cylinder, extend from the cylinder head through to the crankcase.

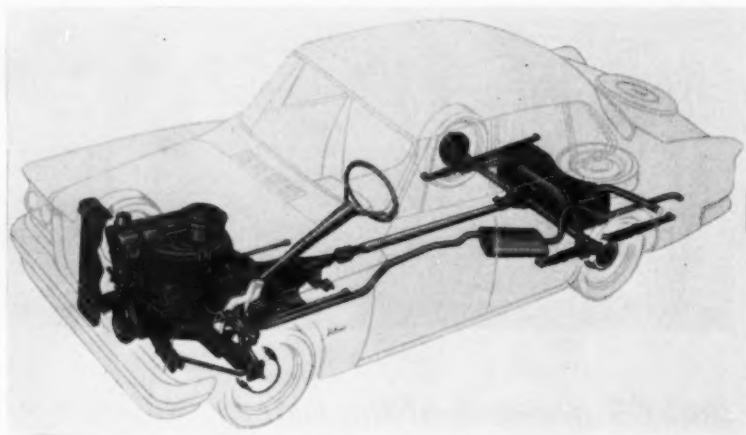
The engine is mounted with the flywheel end to the front; direction of rotation is clockwise when viewed from the flywheel. Thus it becomes "backward" mounted by conventional standards. The cylinder numbering system is reversed. The right rear cylinder  
(Continued on page 109)

# CHRYSLER VALIANT

## offered in two series

*One of the interesting electrical features of the new Valiant is a belt-driven alternator*

Mechanical components of the new Valiant with the outline of the car's body.



By Joseph Geschelin,  
Engineering Editor

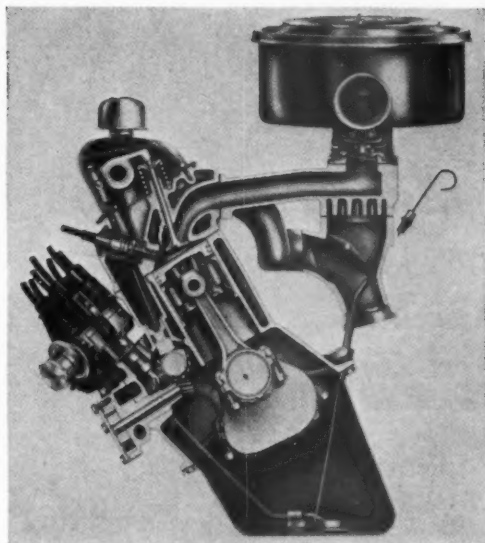
**I**NTRODUCTION of the Valiant completes for the most part entries in the small car field. Marketed by the Plymouth-DeSoto-Valiant Division, it is a new car in every respect. It is characterized as combining high performance and economy in a fine car having low initial cost.

Valiant models are mounted on a wheelbase of 106.5 inches. Principal dimensions of a sedan are: overall length—184 inches, width—70.4 inches, height—54 inches, with three-passenger load. Like other 1960 Chrysler

Corp. cars, Valiant is comprised of mechanical units specifically designed for this car. It features a new OHV 6-cylinder, 170 cu. inch water-cooled engine; new transmissions; new rear axle and drive line. Moreover, it embodies Torsion-Aire suspension common to all Chrysler Corp. cars. It is important to note an impressive break-through: Valiant employs an AC (Alternating Current) alternator, weighing 9½ pounds less than a conventional generator. One of its major advantages is that it provides a high charging rate



The four-door sedan of the "deluxe" series. Sedan's weight will approximate 2750 lbs.



Cross-section of the Valiant engine. The engine is said to achieve 100 horsepower.

at all speeds. It is a three-phase alternator.

Valiant is offered in two series. Both series include a 4-door sedan, 2-seat wagon, and 3-seat wagon. Approximate weight of the sedan is 2750 pounds.

Consider now the mechanical features. Most important, of course, is the new 6-cylinder engine. Of OHV type, it is designed for mounting in the chassis at an angle of 30 degrees to the right to maintain low hood height. The valve cover and oilpan are suitably formed to have the faces parallel to the

ground. The engine has a bore of 3.40 inches, stroke of 3.125 inches, displacement 170 cu. inches. Compression ratio is 8.5 to 1. The engine is fitted with a single-barrel Carter downdraft carburetor with automatic choke. Fuel economy is placed at over 25 mpg.

Exhaust is handled by a single pipe, 1 $\frac{3}{4}$  inches in diameter, which passes through the propeller shaft tunnel.

Mention was made earlier of the adoption of the Chrysler-built AC (Alternating Current) alternator used with this engine. Supplying the 12 volt system, it is a three-phase alternator. It is used in combination with a newly developed 6-diode silicon rectifier. Electrical characteristics are these: It supplies more current at idle than does the conventional generator, making it a feature for slow-speed winter driving when the electrical load is particularly heavy. At higher speeds, output builds up to a maximum of 35-amp.

It weighs only 12 pounds. This machine attributes its low weight to the use of aluminum in the structure, combined with the light

*(Continued on page 141)*



Besides four-door sedan (above), a station wagon and a two-door model complete Rambler American's 1960 line.

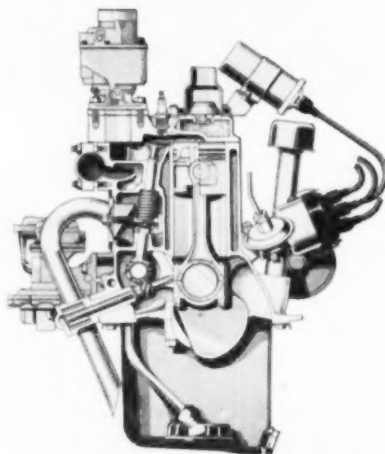
## **RAMBLER AMERICAN** **includes four-door model**

*Power steering offered for the first time; self-adjusting brakes also an option*

**A**MERICAN Motors has expanded its Rambler American line for 1960. It has added a new four-door sedan. The American line also includes two-door sedans and station wagons. These models for 1960 feature clean, functional styling, and changes which provide for convenience and comfort.

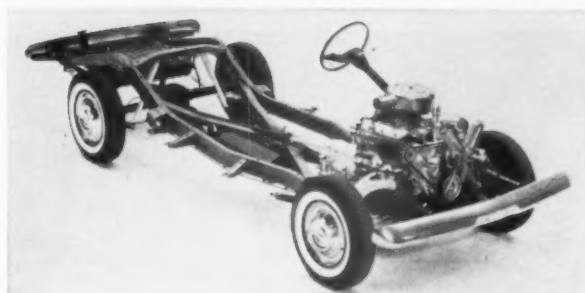
The door opening angle has been changed from last year's 55 degrees to 75 degrees to allow easier entry. The rear doors on the four-door sedan also open to 75 degrees. Window area has been increased by elimination of the "lip" on the upper edge of the doors and rear quarter panel. The change increases the glass area of sedans by 5.1 per cent and

*(Continued on page 96)*



Above: cutaway of Rambler American's popular six cylinder engine.





Above: New Studebaker Lark convertible. Left: Chassis and power train shown.

## STUDEBAKER LARK adds two new models

*Convertibles and four-door station wagons have been added  
to 1960 Lark line*

**C**ONVERTIBLES, not available at Studebaker since 1952, and four-door station wagons round out the Studebaker Lark line for 1960. Lark models come in four series, the Regal V-8, Deluxe V-8, Regal Six and the Deluxe Six. Regal V-8 and Regal Six include convertible and hard-top models.

All models retain the shorter overall length—175-in. for passenger cars; 184.5-in. for station wagons.

Although the basic 6-cylinder engine re-

mains the same, numerous improvements have been made. A new carburetor has redesigned fuel passages and anti-percolating characteristics. Percolation is further reduced by employing a ball check type accelerating pump.

The idle system has been modified, using a choke high idle cam that blends throttle opening with starting and warm-up characteristics. There is also a single unit float.

*(Continued on page 104)*



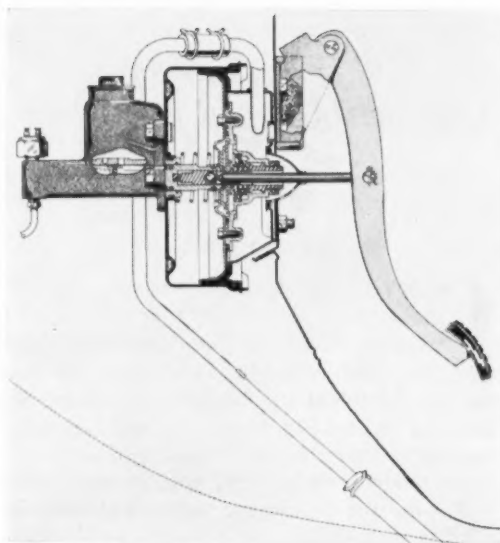
Rear and side view of 1960 Buick Invicta.

## BUICK makes styling and mechanical changes

*364 cu. in. LeSabre engine  
available in four options*

**B**UICK offers this series of cars—LeSabre, Invicta, Electra, and Electra 225 for 1960. It has made some noteworthy sheet metal styling changes, all adding up to an entirely different look. Contours have been softened materially. This has been done by changing the angle of the fins at the rear and rounding off the corners of the fins. In addition, front end and rear end appearance has been altered by the introduction of a new zinc die cast grille, and new bumpers all around.

Two former features of the Buick have  
(Continued on page 113)



Cutaway view of Buick's power brake components.

# CADILLAC shows / side view silhouette

*Improved brake cooling featured in 1960 models*



Cadillac's new side view silhouette is achieved with the lower, more restrained tail fin design.

**T**HE 1960 Cadillac features traditional but more restrained tail fins. They reflect the influence of the Eldorado Brougham. The new front end with a wider and lower appearance results from the new grille, bumper and parking and driving lights. The rear bumper has a distinctive lighting arrangement.

For 1960 Cadillac is offering 13 models in three standard and one custom series. All models are basically unchanged in dimensions over last year's models.

The major engineering advancement for 1960 involves the brakes. Increased rear brake cooling, provided by new finned and

extended rear drums, makes possible the use of larger rear wheel brake cylinders. This reduces front brake loads and gives better cooling at all four wheels.

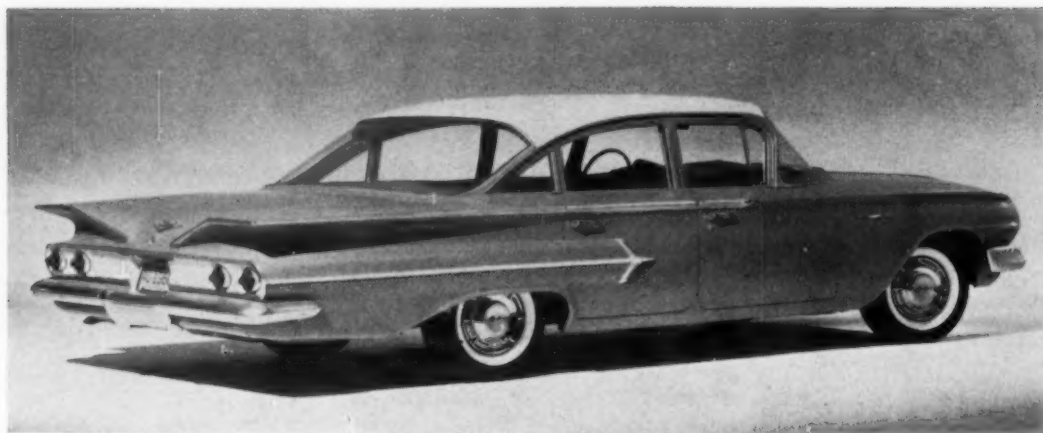
The larger rear wheel cylinders also provide better braking distribution between front and rear wheels to give straighter stopping action with less skid during slippery conditions.

Another part of the brake story is a self-adjusting feature that automatically adjusts the brakes as needed when the car is operated in reverse gear. This compensates for lining

*(Continued on page 132)*

## CHEVROLET makes major style changes

*The basic 283 cu. in. engine has been recalibrated for greater fuel economy*



Above: The attractive four-door sedan in the 1960 Bel Air series.

**C**HEVROLET for 1960 offers major appearance changes as well as noteworthy revisions of the body structure. While the mechanical components remain substantially the same, numerous changes and refinements have been effected in the interest of longer life, improved performance, and better economy.

All models except hardtops and convertibles have a straight slope windshield and solid safety plate glass in side windows.

The basic 283 cubic inch engine now comes as an economy V-8 with a two-barrel carburetor.

Because of the lighter demand on the engine, intake valves now are made of carbon steel instead of alloy steel; exhaust valves are no longer aluminized; and the harmonic balancer has been eliminated.

Besides the Six and the revised 283 V-8, Chevrolet again offers optional engines as  
(Continued on page 141)



## CHRYSLER embodies sophisticated styling

*An electro-luminescent instrument panel is among outstanding interior developments*



Above: The four-door hardtop New Yorker. Its grille differs from that of the Windsor and Saratoga models.

**T**HE 1960 Chrysler line embodies sophisticated styling developed about its unitized body shell construction. It is offered in the same three basic series. First: Windsor on 122 inch wheelbase; then Saratoga and New Yorker on 126 inch wheelbase. There will also be a Chrysler 300F model.

Chrysler Division cars will have unit-type bodies, optional swivel seats, and refinements in the V-8 engines.

Front end appearance is identified by two different grilles. The one for Windsor and

Saratoga is a large panel of aluminum, outlined by a Chromium-plated moulding. On the New Yorker the grille is formed by recessed horizontal aluminum bars in satin finish. These are outlined by a framing of chromium-plated steel.

Electro-luminescent instrument panel lighting is an outstanding development. The flat face of each instrument is made in such manner that the application of AC (Alternating Current) voltage results in a phosphores-

*(Continued on page 122)*

## DESOTO to use 122 in. wheelbase

*Ram-induction engine available; also popular swivel seats*

**D**ESOTO is entering the 1960 market with two series—the FireFlite and Adventurer. Each one offers a four-door sedan, four-door hardtop, and two-door hardtop. All cars are on a wheelbase of 122 inches. Overall length is 215.4 inches for FireFlite, 217 inches for Adventurer.

DeSoto offers many advanced mechanical features. These include the unit-type construction, ram-induction optional engine, optional swivel seats, new brakes, optional safety and accessory items, and improved

AutoPilot. First, let's look at the engines:

The 361 cubic inch, 295 BHP V-8 engine is standard on FireFlite; the 383 cubic inch, 305 BHP V-8 engine is standard on Adventurer. Both engines have two-barrel carburetors. The 383 cubic inch, 325 BHP with four-barrel carburetor is available as optional equipment on both FireFlite and Adventurer.

In addition, the 383 cubic inch, 330 BHP ram-induction engine with two, four-barrel  
(Continued on page 132)

Below: DeSoto Adventurer in the two-door hardtop model.





Above: a two-door hardtop in the new Matador series of the Dodge line.

**DODGE adds**

**Dart  
Matador  
Polara**

*Engines are available  
in both the economy and  
in power packages*



**D**ODGE offers two new series—the Matador and the Polara—in its “regular” line of new cars for 1960. Then the Dodge Division also proudly announces the new Dodge Dart. The latter model is expected to compete actively with the models of lower-priced lines. The Dart’s wheelbase is 118 in. for passenger cars while Dart station wagons have 122 in. wheelbases.

The new Matador and Polara series are offered in 11 models. Dodge Division enters the 1960 market with a variety of engine options, including the 225 cu. in. six for the Dart. Availability of engines is as follows: 361 cubic inch V-8 with two-barrel carburetor, standard on Matador models; the 383 cubic inch V-8 engine with four-barrel carburetor is standard on the Polara models.

*(Continued on page 130)*

At left: front view of the new Dodge Dart. Passenger car models have 118 in. wheelbase.



Front and side view of new 4-door Edsel Ranger.

Front end styling shows large zinc die-cast grille and wide-spread headlamp mounting.

*Wheelbase is 120 inches;  
three choices of engines*



## **EDSEL restyles initial design concept**

**F**OR the third consecutive year the Edsel line has been endowed with a new body and entirely different styling. The styling change has parted company with the initial concept, eliminating the front end identification that characterized the initial launching of this line. Gone too is the dogleg in the front entrance, the front post being

moved about 10 in. forward in the car.

The 1960 Edsels are mounted on a 120-in. wheelbase chassis with front tread upped to 61-in. while the rear tread is 60-in. Shoulder room in the front seat has been increased.

Front end styling is enhanced by a large zinc die-cast grille and wide-spread headlamp

*(Continued on page 106)*



# FORD highlights styling, mechanical changes

*Carburetion, engine, and transmission stress economy*



Front view of Ford's massive grille and hood.

**E**NTIRELY new bodies and fresh styling are major features of the 1960 Ford cars. Cars are available in 15 models. All cars are mounted on the same 119-in. wheelbase chassis. Front tread has been increased to 61-in., rear to 60-in.

Overall roof height has been reduced to 55-in. without loss in seating comfort.

One of the distinctive features of the new bodies is in the elimination of the dogleg at the entrance. It is of interest that front fenders are narrow-width, removable bolt-on design.

Ford offers a line of four powerplants—the Six and three V-8's. Features common to all engines include: wedge-shaped, high turbulence combustion chambers; free-turning overhead intake and exhaust valves; high-al-

*(Continued on page 108)*

Below is side view of Ford's popular Galaxie.





Above: Stylish look typified by four-door Southampton hardtop.

## IMPERIAL / restyles car inside & out

*Noteworthy features include use of  
double-layer chromium plating technique*

**T**HE Chrysler Corporation's top line of cars, the Imperial for 1960, has been restyled on the exterior and interior. In the line-up of models is a four-door sedan and four-door Southampton hardtop in the Imperial Custom, Crown, and LeBaron series; two-door Southampton hardtop in the Crown and Custom series; and a convertible coupe in the Crown series. Seventeen exterior colors are offered.

One of the noteworthy features is the so-called double-layer chromium-plating tech-

nique. Every exterior plated part will be given the double-layer treatment. This imparts a brighter and longer lasting finish.

Interior features, designed for safety and passenger comfort include: a new high tower driver seat; foam rubber padding up to six inches in thickness for both front and rear seat backs; an optional adjustable spot air conditioning unit beneath the steering column opposite the driver; non-glare instrument panel with electro-luminescent lighting; im-

*(Continued on page 132)*



Above: The graceful lines of the new Lincoln four-door hardtop.

*Engine compartment wiring coordinates  
the major fuses into central power box*

## **LINCOLN shows fresh eye appeal**

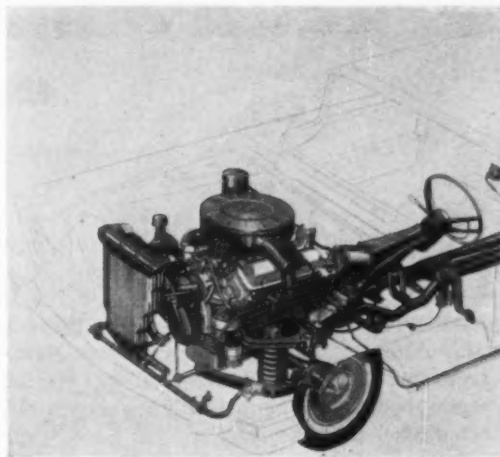
**T**HE 1960 Lincoln-Continental Mark V, Lincoln Premiere, and Lincoln models have fresh eye appeal stemming from changes in the roof panel, front and rear styling treatment, and new exterior decorative treatment. The basic body remains the same. Mechanical features embody improvements in details.

A new die-cast grille of large proportions is carried into the headlamp area, framed by a bright metal molding. A grille of the same basic character is suitably framed at the rear.

The line-up of the series and models is as follows: Continental Mark V; Limousine, town car, four-door sedan, two-door and four-door hardtops, and a convertible. Lincoln Pre-

*(Continued on page 134)*

Below: Lincoln's chassis, new front suspension, fuel, exhaust systems and other details.





Three-quarter view of both the 383 and 430 cubic inch engines will appear as above.

## MERCURY improves engines, lighting

**D**ISTINCTIVE styling and entirely new bodies characterize the Mercury line for 1960. Front end treatment features a new die-cast zinc grille. At the rear, there is a high impact bumper endowed with extra strength. All of the passenger car and station wagon models are mounted on a common 126 inch wheelbase chassis.

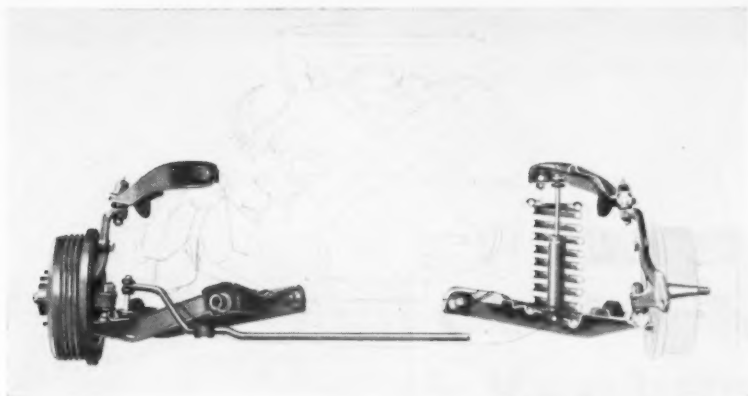
From the standpoint of mechanical fea-

tures the biggest news is found in the engine program. Mercury has three basic 90 degree V-8 engines—312, 383, and 430 cubic inch displacement. Besides the improvements in each one, the most important point is that two-barrel carburetors have been adopted across the board to the exclusion of four-barrel carburetors. Mercury engineers say that the two-barrel carburetor gives better performance at





Above: Mercury Montclair four-door Cruiser hardtop.

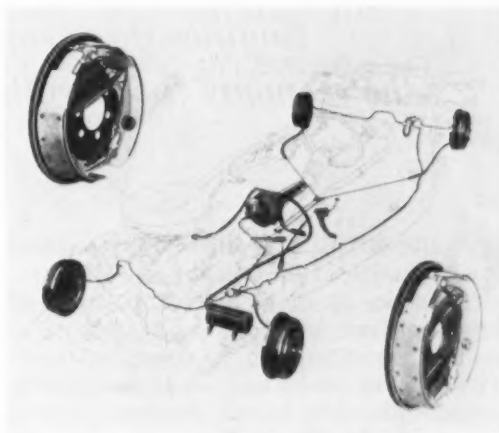


Above: Front view of front suspension system with use of stabilizer bar.

*Four-barrel gives way to  
two-barrel carburetors  
all across the board*

low speeds; the same performance in the range of 60 to 70 mph., with a gain in economy.

Generally speaking, the engine improvement program was based upon getting increased smoothness and greater reliability; improved economy with the 312 and 430 cubic inch engines; and (Continued on page 134)



Above: Phantom view of Power brake system and self-adjusting brake assemblies.



Above: The Oldsmobile 98 four-door hardtop.

## **OLDSMOBILE** **restyles 1960 line**

*Engines this year tend to stress  
the economy factor rather than power*

**O**LDSMOBILE is launching the 1960 version of its family cars. They are: series 88, Super 88, and 98 cars with completely restyled bodies and sheet metal as well as new front and rear end treatment. This year the line-up includes 17 models. This includes the addition of three-seat station wagons to the 88 and Super 88 series. The front end is enhanced with a new zinc die-cast grille.

Supplementing the styling story, the major emphasis is on engines since the mechanical components remain virtually unchanged.

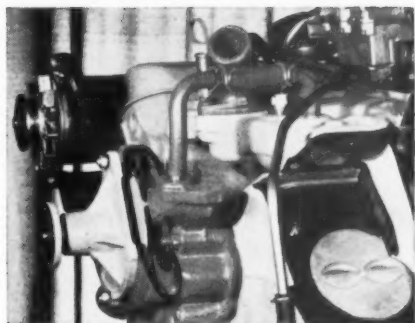
This year the engines stress economy rather than power. Oldsmobile offers the 371 cubic inch "88" engine with moderate compression ratio and a two-barrel carburetor. This model uses regular grade gasoline. For owners who want more performance, the same engine is available with higher compression ratio.

The "88" engine embodies some detail changes. This is due to the decrease in rating and compression ratio. One of these is a new dish-head piston to provide for the increase in combustion chamber volume, thus permit-

*(Continued on page 126)*



Above: View of new Pontiac Star Chief two-door sedan. Note grille change.



Pontiac's premium fuel high compression engine and divided chamber water pump.

## PONTIAC adds new Ventura series

*Engines available for  
regular or premium fuel*

**A**LTHOUGH Pontiac launched its cars last year with a dramatic change in styling, the 1960 line has been retailored completely. Particularly is this so with exterior sheet metal and line contour. In addition, the styling motif at the front and rear has been restyled.

Pontiac for 1960 has four series in 16 models, marking the addition of the Ventura

series, which is a new introduction this year.

Catalina and Ventura series as well as the Bonneville Safari are mounted on a 122 inch wheelbase chassis; the Star Chief and the other Bonneville models are on a 124 inch wheelbase chassis.

There are two standard engines. Each uses regular fuel supplied with the standard manual shift transmission. There are two premium fuel engine set-ups for use with Hydramatic drive. Both have a compression ratio of 10.25 to 1.

*(Continued on page 127)*

Plymouth continues use of a rear-facing seat on the 4-door station wagon model.



## **PLYMOUTH offers 23 car models**

*Ram induction on the V-8 engine  
is one of many outstanding features*

**P**LYMOUTH offers 23 models in three car lines for 1960. The lines are of course, Savoy, Belvedere, and Fury. Then there are three station wagons—DeLuxe, Savoy and Belvedere. A four-door sedan is available in all three lines; and a two-door hardtop in the Belvedere and Fury. (The four door hardtop and convertible coupe now are exclusive to the Fury.)

The two-door station wagon is limited to the DeLuxe Suburban. Four-door models are available in all three Suburban lines. The 9-passenger model is offered as a Sport Suburban and a V-8 Custom Suburban.

All of the cars are on a wheelbase of 118-in. which is the same as last year. However, wheelbase for all Suburbans is 122-in.

A styling feature on the new cars is the large extruded aluminum front grille, in a bright, gold-anodized finish.

A variety of optional equipment items is available. The following are some of the options: Foam rubber cushions for the front are supplied as standard in all cars and station wagons. Power brakes, power steering, safety belts, and 6-way seat are available as options. The Automatic swivel seat is available as an option only in the Fury and Sport Suburban.

The mechanism has been changed in such fashion as to have the seats swing out automatically when the front door is opened—but only when the seat is unoccupied.

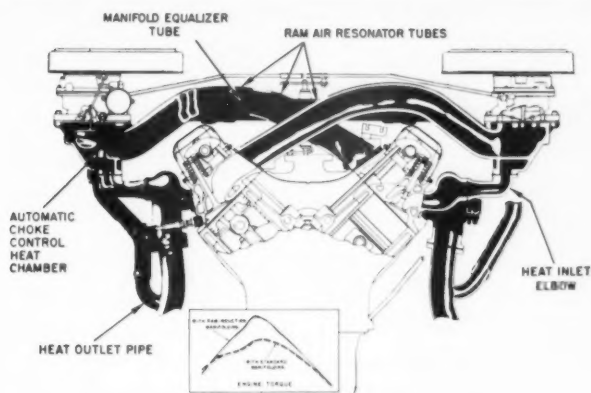
Plymouth cars have the chassis frame integrated with the body structure. The unit-



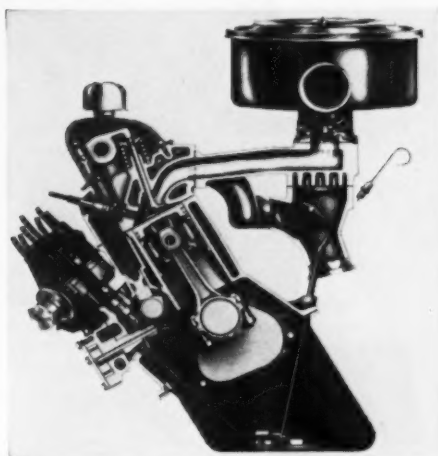


Styling features include a large aluminum grille in a bright gold-anodized finish.

Below: Cutaway view of the new Plymouth 225 cubic in., inclined 6 cylinder engine.



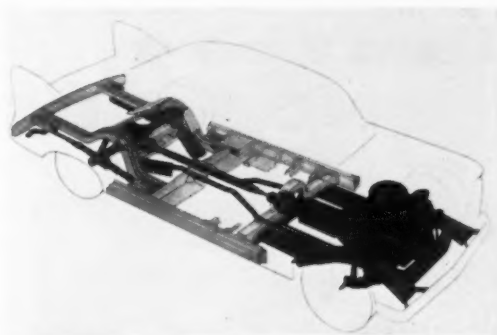
Ram-induction increases engine torque considerably. Diagram above shows components.



ized body shell is firmly bolted to a front structure which supports the engine and front end suspension. The floor has been lowered; higher, posture-controlled seats are provided. Moreover, there is more room between the steering wheel and the knees. This makes for comfortable driving.

Door pillars are stronger than previously. So are the door hinges. Front fenders and grilles can be readily removed in the event of collision damage.

Apart from the Ram-Induction V-8, biggest news is in the introduction of the new 225-cubic inch OHV Six. This was designed for installation in the chassis at an angle of 30 degrees to the vertical plane, inclined to the right. This (Continued on page 104)



Unitized body construction and chassis components.



**Stock up on these items NOW . . .**

**COOLING SYSTEM ITEMS**

Anti-freeze, Sealants  
Hose, Clamps  
Fan belts  
Radiator filler caps  
Thermostats

**APPEARANCE ITEMS**

Polish & Cleaners  
Chrome cleaner  
Floor mats, Slip covers

**STEERING ITEMS**

Tie rod ends  
Support arms, Coil springs  
Bushings

**BRAKE ITEMS**

Brake fluid  
Cylinder cups  
Lining, Springs, Hose

## **Don't be a "NO \$ALE SERVICEMAN"**

*Cold weather 'hot' items  
should be promoted NOW  
to get the jump on sales*

**By William M. Montgomery, News Editor**

**D**ON'T be caught napping this fall. Just around the corner is Ol' Man Winter, with his freezing polar blasts. Now is the time to stock up on winter merchandising items that will be "hot" items soon. Remember last winter? Many service stations were cleaned out of winter items, such as sets of chains, batteries, anti-freeze etc. during that last big snow. If only they had stocked up more. Turning away those cash-customers, brother, really hurt! Don't you be caught

## ... for Profit this Winter

### SAFE DRIVING ITEMS

Chains, Snow tires  
Windshield wipers  
Washer anti-freeze  
Sealed beams & bulbs  
Turn signals, Defrosters

### QUICK SERVICE ITEMS

Batteries, Battery cables  
Spark plugs, Points  
Distributor caps  
Generators  
Voltage regulators  
Starters  
Oil, air & gas filters  
Winter grade oil

### CHASSIS ITEMS

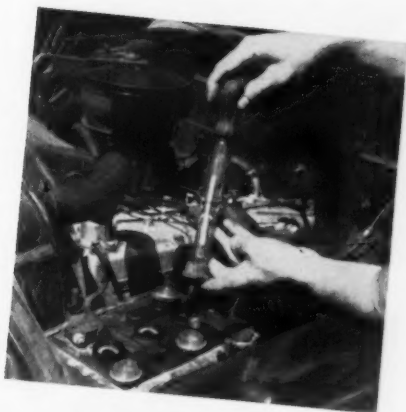
Shock absorbers  
Springs, Mufflers  
Tail pipes  
Universal joints

**NO STOCK** **NO SALE** **NO STOCK**  
**NO SALE**

short. Find your inventory needs early and stock up.

Winter is hard on every part of an automobile. It will be subjected to extremely low temperatures, ice and snow and many other hazards. Bad weather puts a heavier load on the engine, battery, tires and brakes. Upholstery takes a beating, and so do the floor mats. Car's finishes are dulled and scratched by ice and snow. Cars will need parts and

*(Continued on page 127)*





Jim Reed (4th from left) gets help in cooling off from his mechanic after winning 10th annual Southern "500" at Darlington, S. C. Congratulating Reed are (2nd from left) O. E. Miles, vice president of Goodyear Tire & Rubber Co.; C. D. Evans and A. W. Webner II of Goodyear; and Bob Colvin, Darlington Raceway pres.

## DARLINGTON "500"

*Jim Reed sets new mark in sizzling competition*



Richard Petty's car in pits after hitting a wall. Mechanics straightened fender and installed another wheel. Car finished 3rd.

Cars are bunched going through third turn at the Raceway. Held on Labor Day, the race saw Reed average 111.8 mph. Qualification speeds of the stock cars in competition reached 123 mph and upwards.

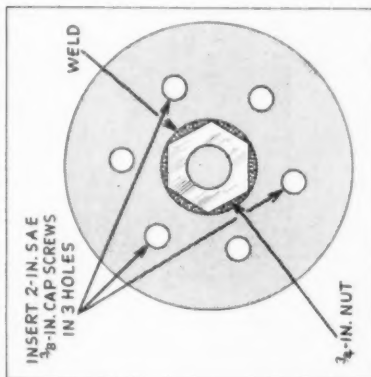


# \$7.50 CAR and TRUCK PAID FOR EACH KINK USED shop kinks

## Tool To Remove Crankshaft Pulley From '58 Chevy

Donald O. Salagian, Duely Auto Service, Ventura Ave., Fresno, Calif.

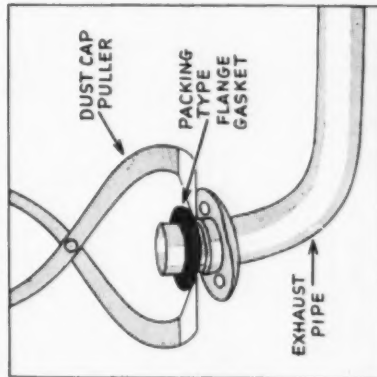
9. I have devised a tool for removing the crankshaft pulley from a 1958 Chevrolet 283 cu. in. V-8. Take a discarded front unit drive gear-1950-51 Olds Hydramatic. Cut off splined end about 4 inches. Insert a  $\frac{3}{4}$  inch SAE nut in the cut end and weld. Use the screw from a carrier bearing puller which is 7 inches long and the same thread as nut.



## Dust Cap Puller Helps Remove Flange Gasket

Thomas C. Kilday, 723 Longman Place, Hempstead, N.Y.

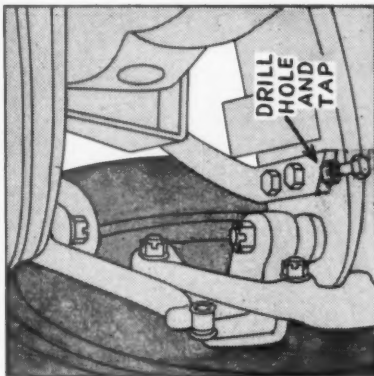
11. When you are changing the exhaust pipe flange gasket, of the packing type, on a six cylinder Chevy, it is usually very difficult to remove the old gasket from around the pipe. I solved this difficulty by using a dust cap puller, such as is used to remove dust caps and hub caps, to grip the packing and thus easily remove it.



## Adjustable Steering Stops For Chrysler Cars

Dale Willits, Mid-State Motors, 2322-13th St., Columbus, Neb.

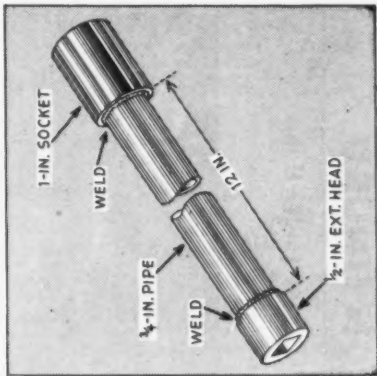
10. A rubbing noise on extreme left or right turns has been heard on some Chrysler-built cars. They do not have adjustable turning radius stops. We made some by drilling a  $\frac{1}{4}$  in. hole and tapping a  $\frac{3}{16}$  in. USS Thread in the flat surface on the rear end of lower control arm strut at the point of contact with the steering knuckle arms.



## Socket Extension For Removing Front Coil Springs

Leonard Haverly & Ray Hengen, 19 St. Patrick St., Rapid City, S.D.

12. We have made an inexpensive socket extension for use in removing and replacing front coil springs in Chevrolet cars, 1955 thru 1957. This is used with a spring compressor. Cut the drive end of a half-inch extension off and weld to a 12 inch piece of  $\frac{3}{4}$  inch pipe. Then drill out the drive end of a 1 inch socket to  $\frac{3}{4}$  inch.



MORE ON REVERSE SIDE

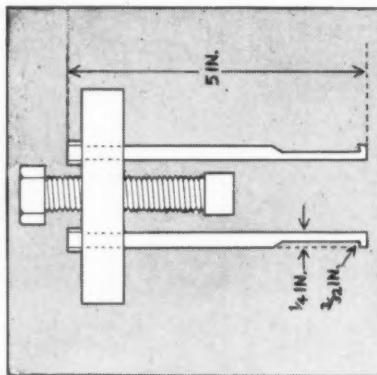


# CAR and TRUCK SHOP KINKS . . . CONTINUED

## Tool For Replacing Upper Bearing In Steering Column

Walter Ingersoll, Croghan Motor Sales, Croghan, N.Y.

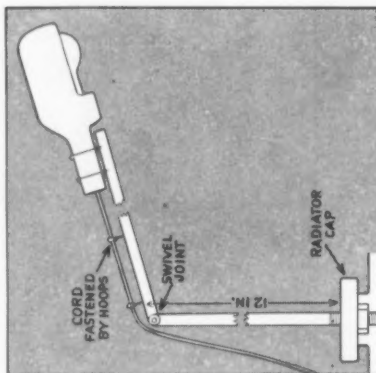
**13.** Here's a tool for replacing upper bearing in the steering column on 1957-58 Dodges. It is not necessary to remove the mast jacket. Pull the steering wheel and remove the signal light switch. Insert the hooks between the bearing and the steering shaft directly opposite each other. Use the steering wheel puller to pull the bearing and drive the new bearing in.



## Handy Light Holder Used When Working Under Hood

Wayne Zumwalt, 1698 McArthur Dr., Porterville, Calif.

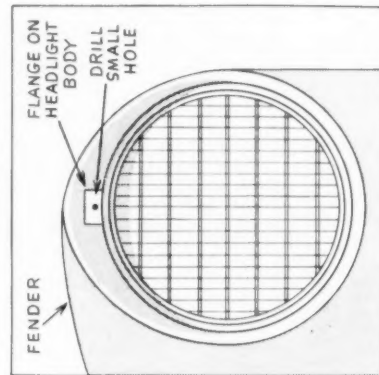
**14.** We made a handy gadget to hold our extension cord while working under a hood. Usually when working on an engine there is no place to hang your light. We made up a light holder from a 3/4 inch metal rod. We fastened the rod to a radiator cap and cut rod and installed a swivel point at the top. Light is fastened to rod by a couple of clamps.



## Small Metal Screw Will Tighten Headlight Doors

George M. Tootle, Green's Garage, 125-5th St., Augusta, Ga.

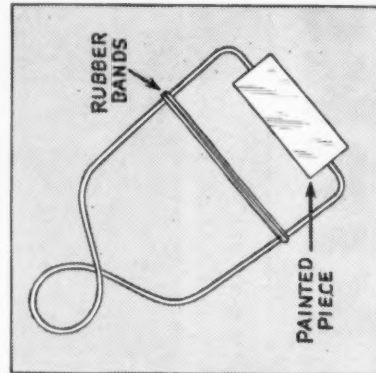
**15.** On the 1954 Fords I have found that the headlight doors are hard to keep tight. Install small metal screw as shown in the accompanying illustration. It will work fine and you can adjust the headlight doors as tight as you want. This screw keeps the little flange from bending out when the bottom screw is put in the door.



## Hangers Hold Small Parts For Spray Painting

Stanley Clark, Box 2162, East Bradenton, Fla.

**16.** When spray painting small parts we're at a loss as to where to put them until they dry. We made up a number of tongs shaped out of wire clothes hangers loaded with rubber bands. The hangers hold the parts, and the hangers are hung up on a rack where they won't be disturbed. The small parts may be sprayed while they are in the hangers.



# 1960 Tune-Up—Alignment Specifications

MAKE AND MODEL	ENGINE	No. of Cylinders Bore and (In.)	Maximum Brake H.P.	TUNE-UP DATA										FRONT END ALIGNMENT			
				Spark Plug Make and Size (mm)	VALVES		IGNITION				Steering Axis Inclination (Deg.)	Caster (Deg.)	Camber (Deg.)	Toe-in (In.)			
					Seat Angle	Clearance Tappet Operating	Breaker Point Gap (In.)	Cam Angle (Deg.)	Spark Plug Gap (In.)	Timing Occurs T.C.							
															Inlet (Deg.)	Exhaust (Deg.)	Inlet (In.)
AMERICAN MOTORS CORP.																	
Rambler.....	American 6-6001	6-3 1/4 x 4 1/4	90	ACA-14	45	45	.016C	.018C	.020	39	.035	3B	8 1/2	0 to 1 1/2 P	1/2 N to 1/2 P	to 1/2	to 1/2
	Six 6-6010	6-3 1/4 x 4 1/4		ACA-14	45	45	.012H	.016H	.016	32	.035	5B	8 1/2	0 to 1 1/2 P	1/2 N to 1/2 P	to 1/2	to 1/2
	Rebel 8-6020	8-3 1/2 x 3 1/2		CA-14	30	30	.012H	.014H	.017	29	.035	TC	8 1/2	0 to 1 1/2 P	1/2 N to 1/2 P	to 1/2	to 1/2
	Ambassador 8-6080	8-4 x 3 1/2		CA-14	30	30	Hyd	Hyd	.017	29	.035	5B	8 1/2	0 to 1 1/2 P	1/2 N to 1/2 P	to 1/2	to 1/2
CHRYSLER CORP.																	
Chrysler.....	Windsor 8-PC1-L	8-4 1/4 x 3 1/4	305	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1 1/2 P	0 to 1 1/2 P	to 1/2	to 1/2
	Saratoga 8-PC2-M	8-4 1/4 x 3 1/4	325	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1 1/2 P	0 to 1 1/2 P	to 1/2	to 1/2
	New Yorker 8-PC3-H	8-4 1/4 x 3 1/4	350	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1 1/2 P	0 to 1 1/2 P	to 1/2	to 1/2
	8-300F	8-4 1/4 x 3 1/4		AL-14	45	45	Hyd	Hyd	.017	30	.035	5B	6 1/2	0 to 1 1/2 P	0 to 1 1/2 P	to 1/2	to 1/2
De Soto.....	Fireflite 8-PS1-L	8-4 1/4 x 3 1/4	295	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
	Adventurer 8-PS3-M	8-4 1/4 x 3 1/4	305	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
	8-PS1-L, PS3-M (Engine Option)	8-4 1/4 x 3 1/4	325	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
	8-PS3-M (Engine Option)	8-4 1/4 x 3 1/4	330	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
Dodge.....	Matador 8-PD1-L	8-4 1/4 x 3 1/4	295	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
	8-PD1-L, PD2-H (Engine Option)	8-4 1/4 x 3 1/4	325	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
	Dodge Dart	8-4 1/4 x 3 1/4	330	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
	Seneca 6-PD3-L, Pioneer 6-PD3-M	6-3 1/4 x 4 1/4	145	AL-14	45	45	.010H	.020H	.020	39	.035	2 1/2 B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
	Seneca 8-PD4-L, Pioneer 8-PD4-M	8-3 1/4 x 3 1/4	230	AL-14	45	45	.010H	.018H	.017	30	.035	5B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
	Phoenix 8-PD4-H	8-3 1/4 x 3 1/4	255	AL-14	45	45	.010H	.018H	.017	30	.035	10B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
	8-PD4-H (Engine Option)	8-4 1/4 x 3 1/4	310	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
Imperial.....	Custom, Crown, LeBaron 8-PY1	8-4 1/4 x 3 1/4	350	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1 1/2 P	0 to 1 1/2 P	to 1/2	to 1/2
Plymouth.....	Savoy, Belvedere, Fury 8-PP1	6-3 1/4 x 3 1/4		AL-14	45	45	.010H	.020H	.020	39	.035	2 1/2 B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
	Savoy, Belvedere, Fury 8-PP2	8-3 1/4 x 3 1/4		AL-14	45	45	.010H	.018H	.017	30	.035	5B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
	8-PP2 (Engine Option)	8-3 1/4 x 3 1/4		AL-14	45	45	.010H	.018H	.017	30	.035	10B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
	8-PP2 (Engine Option)	8-4 1/4 x 3 1/4		AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
Valiant.....	8-PP2 (Engine Option)	8-4 1/4 x 3 1/4		AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
	6-V100, V200	6-3 1/4 x 3 1/4		AL-14	45	47	.010H	.020H	.020	39	.035	2 1/2 B	7 1/2	0 to 1 1/2 N	1/2 P to 1/2 P	to 1/2	to 1/2
FORD MOTOR CO.																	
Edsel.....	Ranger-6	6-3 1/4 x 3 1/4	145	Ch-18	45 1/2	45 1/2	.019H	.019H	.025	37	.034	4B	6 1/4	0 to 1 P	1/2 P to 1 1/2 P	to 1/2	to 1/2
	Ranger-8	8-3 1/4 x 3 1/4	185	Ch-18	45 1/2	45 1/2	.019H	.019H	.015	27	.034	3B	6 1/4	0 to 1 P	1/2 P to 1 1/2 P	to 1/2	to 1/2
	8-Engine Option	8-4 x 3 1/4	300	Ch-18	30	45 1/2	Hyd	Hyd	.015	27	.034	3B	6 1/4	0 to 1 P	1/2 P to 1 1/2 P	to 1/2	to 1/2
Falcon.....	6	6-3 1/4 x 2 1/4		Ch-18	45 1/2	45 1/2	.016H	.016H	.025	37	.034	7	7 1/2	0 to 1 P	1/2 P to 1 1/2 P	to 1/2	to 1/2
Ford.....	Fairlane, Fairlane 500, Galaxie-6	6-3 1/4 x 3 1/4	145	Ch-18	45 1/2	45 1/2	.019H	.019H	.025	37	.034	4B	6 1/4	0 to 1 P	1/2 P to 1 1/2 P	to 1/2	to 1/2
	Fairlane, Fairlane 500, Galaxie-8	8-3 1/4 x 3 1/4	185	Ch-18	45 1/2	45 1/2	.019H	.019H	.015	27	.034	3B	6 1/4	0 to 1 P	1/2 P to 1 1/2 P	to 1/2	to 1/2
	All Models (Engine Option)	8-4 x 3 1/4	235	Ch-18	30	45	Hyd	Hyd	.015	27	.034	3B	6 1/4	0 to 1 P	1/2 P to 1 1/2 P	to 1/2	to 1/2
	All Models (Engine Option)	8-4 x 3 1/4	300	Ch-18	30	45	Hyd	Hyd	.015	27	.034	3B	6 1/4	0 to 1 P	1/2 P to 1 1/2 P	to 1/2	to 1/2
Lincoln.....	Thunderbird-8	8-4 1/4 x 3 1/4															
Lincoln.....	Lincoln, Premiere, Continental-8	8-3 1/4 x 3 1/4	205														
Mercury.....	Monterey-8	8-4 1/4 x 3 1/4	280														
	Monterey-8 (Engine Option)	8-4 1/4 x 3 1/4	280														
	Montclair, Park Lane-8	8-4 1/4 x 3 1/4	310														
GENERAL MOTORS CORP.																	
Buick.....	Le Sabre 8-4400	8-4 1/4 x 3 1/4	250	AC-14	45	45	Hyd	Hyd	.015	30	.033	5B	7N	1N to 2N	1/2 P	to 1/2	to 1/2
	Invicta 8-4600; Electra 8-4700, 4800	8-4 1/4 x 3 1/4	325	AC-14	45	45	Hyd	Hyd	.015	30	.033	12B	2N	1N to 2N	1/2 P	to 1/2	to 1/2
Cadillac.....	8-62, 60, 75	8-4 x 3 1/4	325		44	44							4	0 to 1N	1/2 N to 1 1/2 P	to 1/2	to 1/2
	Eldorado 8-62	8-4 x 3 1/4	345		44	44							4	0 to 1N	1/2 N to 1 1/2 P	to 1/2	to 1/2
Chevrolet.....																	
	Biscayne 1100, Bel Air 1500, Impala 1700-6	6-3 1/4 x 3 1/4	135	AC-14	31	46	Hyd	Hyd	.019	32	.036	5B	7 1/2 11'	1/2 N to 1 1/2 P	0 to 1P	to 1/2	to 1/2
	Biscayne 1200, Bel Air 1600, Impala 1800-8	8-3 1/4 x 3 1/4	170	AC-14	46	46	Hyd	Hyd	.019	30	.036	4B	7 1/2 11'	1/2 N to 1 1/2 P	0 to 1P	to 1/2	to 1/2
	8-1200, 1600, 1800 (Engine Option)	8-4 1/4 x 3 1/4	250	AC-14	46	46	Hyd	Hyd	.019	30	.036	8B	7 1/2 11'	1/2 N to 1 1/2 P	0 to 1P	to 1/2	to 1/2
	Corvette 8-867	8-3 1/4 x 3 1/4	230	AC-14	46	46	Hyd	Hyd	.019	30	.036	4B	4	1 1/2 P to 2 1/2 P	1/2 N to 1 1/2 P	0 to 1/2	to 1/2
Corvair.....	6-500, 700	6-3 1/4 x 2 1/4	80	AC-14	45	45	Hyd	Hyd	.019	33	.026	4B	7	5P to 5 1/2 P	0 to 1P	to 1/2	to 1/2
Oldsmobile.....	Dynamic 8-88	8-4 x 3 1/4	240	AC-14	45	45	Hyd	Hyd	.016	30	.030	5B	10	0 to 1N	1/2 N to 1 1/2 P	0 to 1/2	to 1/2
	Super 88, Ninety-Eight-8	8-4 1/4 x 3 1/4	315	AC-14	45	45	Hyd	Hyd	.016	30	.030	5B	10	0 to 1N	1/2 N to 1 1/2 P	0 to 1/2	to 1/2
Pontiac.....	Catalina 60-21, Ventura 60-23	8-4 1/4 x 3 1/4															
	Star Chief 60-24-8	8-4 1/4 x 3 1/4	215	AC-14	30	45	Hyd	Hyd	.016	30	.036	6B	4°50'	1N to 2N	1/2 N to 1 1/2 P	0 to 1/2	to 1/2
	Bonneville 8-60-27, 60-28	8-4 1/4 x 3 1/4	281	AC-14	30	45	Hyd	Hyd	.016	30	.036	6B	4°50'	1N to 2N	1/2 N to 1 1/2 P	0 to 1/2	to 1/2
STUDEBAKER-PACKARD CORP.																	
Studebaker.....	Deluxe, Regal 6-60S	6-3 x 4	90	Ch-14	45	45	.018C	.018C	.020	39	.030	2B	6	1N to 2 1/2 N	0 to 1P	to 1/2	to 1/2
	Deluxe, Regal 8-60V	8-3 1/4 x 3 1/4	180	Ch-14	45	45	.024H	.024H	.016	31	.035	4B	6	1N to 2 1/2 N	0 to 1P	to 1/2	to 1/2
	Hawk 8-60V	8-3 1/4 x 3 1/4	210														

## ABBREVIATIONS

1—Left only; right, 1/2 N to 1/2 P.  
2—Left only; right, zero.

AC—A.C. Spark Plug Div.  
ACA—Autolite, Champion or A.C.  
AL—Electric Autolite Co.  
B—Before top center.

C—Cold.  
CA—Champion or Auto-Lite  
Ch—Champion Spark Plug Co.  
H—Hot.

Hyd—Hydraulic valve lifters.  
N—Negative.  
P—Positive.  
TC—Top center.



Testing cooling and combustion chambers for leaks

### 1957 Ford Loses Water

The following problem confronts me. Make of car: 1957 Fairlane 500 Victoria hardtop, Thunderbird engine 245 hp. I'm having trouble with radiator level—water or permanent anti-freeze. Water would appear in top tank of radiator as normal and at times tank would be empty. Later again it would appear normal without adding water. At times it would be necessary to add water as much as three (3) quarts, to bring water

level to normal, which is half of top tank. We had the radiator off and cleaned out—same happened. Had new winter and summer thermostats. New pressure cap on top of radiator. Even in summer we removed thermostat and same thing occurred. The car has the big engine, dual exhaust. The heat regulator is on the right manifold. We already installed three mufflers with resonators on the right. One on the left. So with the original two that came with the car, there were two on the left side and

four on the right side. Left muffler lasts about a year or 14,000 miles. Right muffler lasts six months or 7,000 or 8,000 miles.

Michael Flaberdreek,  
Coaldale, Penna.

**I**T WOULD seem to me your trouble is probably coming from a leaky head gasket or head. A quick check for a leaky gasket can be made by using a radiator pressure cap tester. Apply pressure while engine is running at idle speed. If gasket is leaking water the engine will miss. I would suggest removing the cylinder heads and examine them for cracks and replace the head gaskets. This would also account for replacing so many mufflers.

### Facts On The 1959 Lincoln's Distributor

The ball bearing type breaker plate has been replaced by a moveable breaker plate and a stationary lower plate. The vacuum diaphragm assembly has also been changed. A new one piece primary wire, which includes the wire connector, molded coil terminal connector, soldered breaker point terminal connector, and a molded insula-

## for troubleshooting



BY JACK MONTGOMERY, TECHNICAL EDITOR

tor, is used with the 1959 distributor and is part of the distributor assembly. Breaker point adjusting procedures are the same as those used for the ball bearing type distributor, except that the vacuum line must be removed when testing or setting the dwell (point opening). As the pivot plate is rotated from the retard position (no vacuum) to full advance position, the dwell increases slightly (point opening increases). This is because the breaker point rubbing block and cam rotate on separate axis. Thus the dwell, 26-28½ degrees, must be adjusted with the plate in the fully retarded position.

### '58 Mercury Hard On Gas and is Noisy

*We have a '58 Mercury, 312*

*hp, 4-door sedan Mercomatic which gives only 12 miles per gal. We have done the usual things with no improvement. Would appreciate your advice. Car has Ford-make carburetor, original equipment. We also have a clucking noise in the vacuum pump. Disconnecting the vacuum line stops this noise. What in your opinion will correct this?*

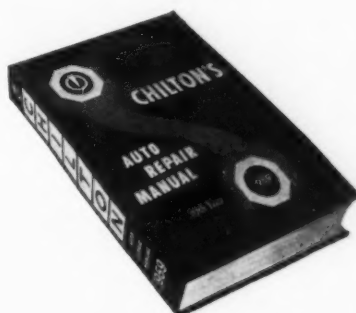
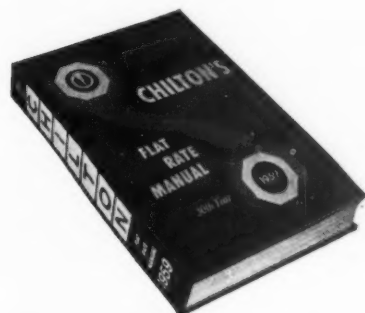
*Cecil Jackson,  
Sardis, Ohio.*

**T**HE 12 miles to a gallon of gas is not too bad. As you know on these new high powered engines equipped with automatic transmissions etc., it takes a lot of fuel to operate them. If this engine is tuned to specifications, and it runs OK, I would check on the driver's habits. It has been proven that one driver can obtain better mileage than another driving the same car. The noise in the pump is probably caused by the check valve or diaphragm. I would suggest installing either a new or rebuilt pump.

### Bending Steering Knuckles May Cause Shimmy

Chevrolet steering equipped with ball-joint front suspensions should never be heated or bent in an effort to change front

wheel camber. By bending the knuckle, usually between the upper ball joint and the wheel spindle, the steering geometry is changed in such a way that the vehicle becomes susceptible to shimmy and lead. This is a direct result of the change in scrub radius, which is a relationship of steering axis, wheel spindle axis, wheel offset, and tire size. In addition, bending causes misalignment of brake components and may cause early failure or erratic response. Bending the steering knuckle to increase or decrease front wheel chamber has been an acceptable procedure on king-pin equipped vehicles. In this case, the bending is done "inboard" of the king-pin and does not affect the relationship of wheel spindle to king-pin and does not affect the relationship of wheel spindle to king-pin axis.





*From Chokoloskee, Florida, to Nooksack, Washington...*

*Wherever people drive...you'll see*

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## TIRE VALVES

Built to meet the quality demands  
of dealers serving hard-driving motorists  
from coast to coast!



New Tubeless tires  
deserve new Bridgeport  
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extra safety. You and  
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**BRIDGEPORT**  
**TIRE VALVES**  
*Accessories*  
STANDARD OF THE INDUSTRY

The Complete Quality Line of Tire Valves and Accessories — Sold by Leading Jobbers Everywhere

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## "Mother Hubbard"

*Continued from page 39*

there must be an adjustment in costs.

Some wholesaler salesmen have exhibited unwarranted zeal in telling their service shop customers it is unnecessary for them to buy because they are only a short distance away and can supply whatever is needed in just a short time. So we find the tendency toward lower inventories on the part of service shop operators who expect their close wholesale outlet to carry the necessary inventory. The close wholesaler, if he is a small store or branch, relies for his inven-

tory on the main store. The main store frequently relies on the warehouse distributor. In some cases the warehouse distributor relies on the factory branch which in turn relies on the main factory stocks.

Involved and confusing, yes, and quite expensive. No service shop operator could possibly stock all of the material he might need, nor could any wholesaler.

Until the shop operator realizes that his actual costs are affected, until he makes up his mind that inventories commensurate with his volume are a "must," he needs be satisfied with less than a whole loaf.

So actual costs go up when distributing costs increase but that's not all. Many shop operators keep what they call a lost

*(Continued on page 80)*

## Calendar of Coming Events

Oct. 14-15—The Virginias-Carolinas Automotive Wholesalers Association, (wholesalers from Virginia, West Va., South Carolina and North Carolina), Annual Fall Meeting, Poinsett Hotel, Greenville, S.C.

Oct. 16-17—Automotive Wholesalers Association of Louisiana convention, Capitol House, Baton Rouge, La.

Oct. 19-23—47th annual National Safety Congress and Exposition, Chicago, Illinois.

Oct. 21-24—Automotive Wholesalers Association of Texas convention and booth conference, Adolphus Hotel, Dallas, Texas.

Oct. 21-25—Second annual Rod & Custom World's Fair Auto Show; Eastern States Exposition Fairgrounds, W. Springfield, Mass.

Oct. 28-30—Automotive Parts Rebuilders Association, convention and trade show, Hotel Roosevelt, New Orleans.

Nov. 2-5—The Automotive Warehouse Distributors Association, Inc., annual convention, Muchlebach Hotel, Kansas City, Missouri.

Nov. 12-14—Florida Automotive Wholesalers Association convention; Soreno Hotel, St. Petersburg, Florida.

Nov. 14-21—Philadelphia Auto Show; Convention Hall, Phila., Pa.

Nov. 13-15—California Automotive Wholesalers Association convention, Miramar Hotel, Santa Barbara, Cal.

Dec. 4-6—Automotive Wholesalers of Illinois convention, St. Nicholas Hotel, Springfield, Ill.

Jan. 16-24—52nd Annual Chicago Automobile Show, Interantional Amphitheatre, Chicago, Ill.

Jan. 24-28—International Foreign and Sports Car Show Dinner, Key Auditorium, Miami, Fla.

Jan. 30-Feb. 3—National Automobile Dealers Assn., Washington, D.C.

Feb. 10-13—Automotive Service Industries Assn. Show Coliseum, New York City, N. Y.



A new line of protector mats superior to anything you have seen in the field! These mats are all-new . . . new rubber-plastic composition with *Polene*\*, new luster-sheen finish, new space-age styling. In 5 solid colors or two-tones. Custom-fitted door-to-door mats, twins or utility mats.

Eye-catching new merchandising material and cartons.

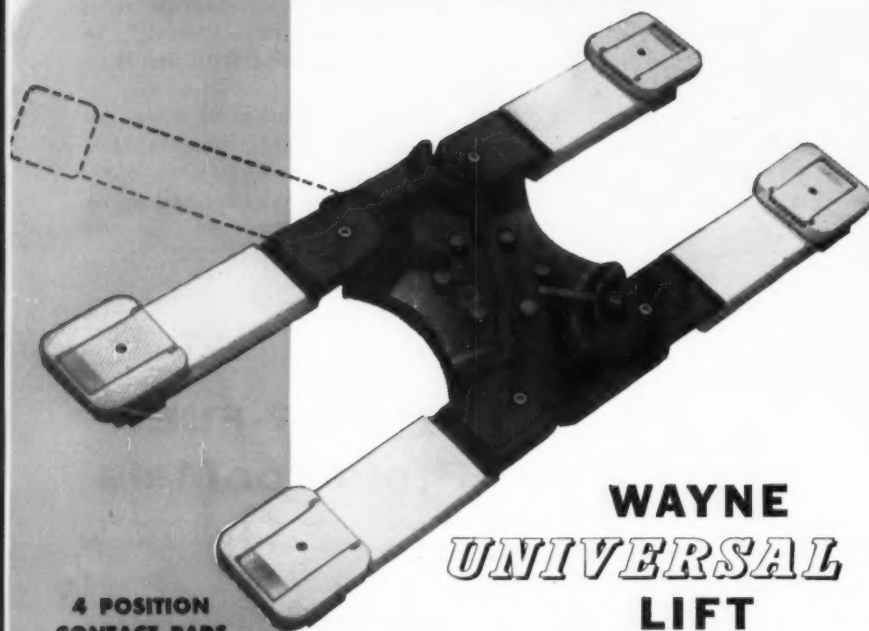
DOAN MANUFACTURING, 1725 London Road, Cleveland 12, Ohio

\* Trademark

Division of Anchor Industries, Inc.



# SAFELY LIFTS ANY MODEL OR FRAME DESIGN



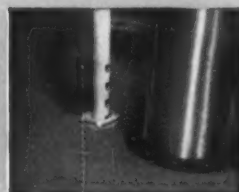
**4 POSITION  
CONTACT PADS**



**NO CRAWLING UNDER**



**6 POSITION  
SAFETY LEGS**



## WAYNE UNIVERSAL LIFT

Small cars . . . long cars . . . sports cars . . . standard cars . . . light trucks . . . this new Wayne Universal lifts them all without extra adapters or troublesome adjustments.

Sturdy arms swing out to fit every type car. Lift is narrow (27 1/4" wide) and low enough (4 1/4" high) to allow all cars to drive over it . . . wide enough (88" extended) to accommodate widest frames . . . four position pads fit all heights.

WAYNE UNIVERSAL LIFT is the finest, positive contact, quick lift to speed lubrications, oil changes, repair work and tire service. Write for new data book to The WAYNE PUMP COMPANY, Div. Symington Wayne Corp., Salisbury, Md. Wayne Pump Canada, Limited, Toronto, Ontario.

### Compare THE UNIVERSAL

COMPARATIVE DATA	LIFT WAYNE	LIFT "A"	LIFT "B"	LIFT "C"	LIFT "D"
BOLSTER DIMENSION AT G	14"	19 1/2"	32"	35 1/2"	49"
SUPERSTRUCTURE WIDTH	27 1/4"	32"	38"	60"	8" x 1 1/2"
RAIL-MIN. LENGTH OVERALL	60"	70"	75"	8" x 1 1/2"	92"
RAIL-CROSS SECTION	6" x 1 1/2"	8" x 1 1/2"	8" x 1 1/2"	87"	36"
PAD-MAX. EXTENDED LENGTH OVERALL	95"	86"	24 1/2"	46"	88"
PAD-MIN. RETRACTED LENGTH OVERALL	24 1/2"	34"	78"	84"	6" x 6"
PAD-MAX. EXTENDED WIDTH OVERALL	88"	76"	7 1/2" x 7 1/2"	7" x 3"	4 1/2"
PAD-SIZE	7 1/2" x 8"	4 1/2"	4 1/2"	4 1/2"	5 1/2"
PAD-MIN. HEIGHT ABOVE FLOOR	4 1/4"	4 1/4"	5 1/4"	5 1/4"	1
PAD-MAX. ADDED HEIGHT ABOVE NORMAL POSITION	5 1/4"	4 1/4"	5 1/4"	5 1/4"	1
PAD-NO. OF INTERMEDIATE POSITIONS	2	0	1	1	1

## "Mother Hubbard" .

*Continued from page 79*

job tabulation. A good many admit their lack of inventory is one reason for these lost jobs. A good many more know that waiting time is a cost consuming factor. This time must be charged somewhere. It is usually absorbed and becomes lost profit. Most waiting time is the result of not having the proper parts and supplies to finish a job.

Shelf merchandise which is sold to the motorist has not been included to the above because it is perfectly obvious that lack of inventory means lost sales. Any service station will vouch for this fact. There are too many places to buy, and as stated before you can't sell 'em if you haven't got 'em.

It has been said that automotive wholesaling today is a matter of selling retail at wholesale prices to service outlets and that orders for one-twelfth of a dozen assorted are too much the order of the day.

It would be folly to do more than generalize on the size of inventory needed by any particular shop. Suffice to say that whatever the size, it must be good inventory made up of products of sound and proven quality.

Low inventory means high cost for the service shop operator because it may well increase the actual prices of supplies due to added distribution costs. It creates additional "lost jobs." It adds to the labor cost because of waiting time. It encourages competition and it takes away the selling incentive always present when there are goods for sale on the shelf.

The high cost of low inventory is not a myth. It is a real, vital problem for all in the automotive service business. The final answer will separate the men from the boys.

Attempting to leave foot prints in the sands of time is the cause of many people getting stuck in the mud.

# Wayne

# LIFTS

# BODY SHOP TIPS

## Easy Way to Remove A Curved Windshield

A little body shop tip that I'd like to pass along is an easy way to remove a curved windshield without breaking it. Simply get some  $\frac{1}{2}$  inch round wood dowel rod and cut it into about 2 inch lengths. Place these about  $\frac{1}{2}$  inch apart across the top and down the sides and behind the rubber channel. Pry the rubber down with a screw driver to put these in place. A gentle, uniform push and out it comes. *Theodore Dieckhaus, 109 W. Fifth St., Washington, Mo.*

## How To Prevent Hammer Heads From Working Loose

I used to have a lot of trouble with hammer heads working loose, no matter how many wedges I'd hammer in the end of the handle. This method also weakened and split the handles. I thought of drilling a hole through the hammer head and handle, from the side and putting a pin through. *D. Offret, 34 North 10 West, Provo, Utah.*

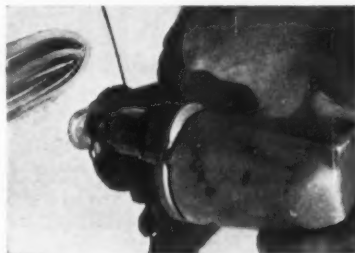
## Tapered Washers Used In Repositioning Bumpers

I have found the use of steel eye beam construction washers very helpful in repositioning bumpers, for proper alignment. The tapered washers, with a  $\frac{5}{8}$

inch are very adaptable to tilt the top up or down, or the tip in or out, depending on how you place the taper. *E. Warren Niebling, 5208 So. Kingshighway Blvd. St. Louis 9, Mo.*

## Removing Broken Off Key In Door Lock

Once in a while a key broken off in a door lock will resist all of the usual methods of removal. This is true if the key is broken far enough inside the lock to make its removal with thin nose pliers or picks impossible. In cases of this sort, the key stub is carefully prick punched, and drilled to the proper tap drill size for a No. 2-64 NF machine



screw tap. This small taper tap is then threaded in, for a distance of two or three threads and the broken stub extracted, by pulling outward on the tap. Care should be taken to drill into the thickest part of the key. *H. J. Gerber, Assist. Prof., Oklahoma State University, Stillwater, Okla.*

## How To Paint Tires and Wheels

I take black (dark grey) primer, and spray all five tires with one light coat. This makes the tire look like new rubber, instead of shining black tire black. When the fifth tire is finished, the first one is dry. I then put on the first tire a "Horner fire mask," and paint the wheel in thirty seconds. When I go all around the four wheels on the car and the spare tire, only seven minutes have elapsed. The tires and wheels look brand new. *J. B. Smith, 8 Milford Rd., Newport News, Va.*

## Easy Way to Replace Fender Molding on GM Cars

To replace fender molding on GM cars, where the rear bolt and nut is concealed, drill through the molding bolt hole in the fender into cowl. Take  $1\frac{1}{4}$  inch, or larger hole saw, and drill a hole in the cowl from the inside. Then bolt molding onto the fender. This is much quicker than loosening the fender. Lastly, cover the hole with masking tape. *Kenneth M. Card, E. Main St., New Hampton, Iowa.*

**BODY SHOP TIPS**  
are worth

**\$7.50**

If you've developed an idea that has helped you to do body and fender work or painting better or faster, it may be worth money. Jot down the idea and, if necessary, make a rough sketch. Sometimes a snapshot will help. Just make the description of your BODY SHOP TIP clear, and if it is used, you'll receive a check for \$7.50.

**LAST  
CHANCE!**

Contest ends November 30th!

**Win your share**

**\$126,000**

**Get all your Prizarama Entries in  
for the Final Blockbuster Drawing!**

Remember—the “Blockbuster” Drawing includes ALL YOUR ENTRIES submitted from the start of Purolator’s \$126,000 Prizarama.

That means that every entry sent in from June through November counts for you . . . and there’s no limit to entries.

Don’t miss the chance to be a winner in this mammoth Purolator give-away. It’s loaded with over 2400 prizes worth \$126,000. Get those entries in now!

Get complete rules and details from your Purolator Supplier.



# of prizes in Purolator's

# Prizarama!

## HERE'S ALL YOU DO:

1. Put a "Seal of Protection" sticker on every car or truck that drives in. There's a sticker in each Purolator carton. You can also get Free stickers from your Purolator Supplier—or on request to Purolator.
2. Remove the Prizarama entry blank on the back of the "Seal of Protection" sticker. Simply peel it off when sticker is placed on vehicle.
3. Fill out entry and mail along with others to Prizarama headquarters in time for the final drawing. Contest closes November 30.

**There's no limit to entries—and all entries sent in for Drawings No. 1 and No. 2 are included in the Blockbuster Drawing No. 3.**



"Purolator"  
Reg. U. S. Pat. Off.

## The Standard Equipment Line

# PUROLATOR

## OIL, AIR & FUEL FILTERS

PUROLATOR PRODUCTS INC., Rahway, N. J.; Toronto, Ontario, Canada





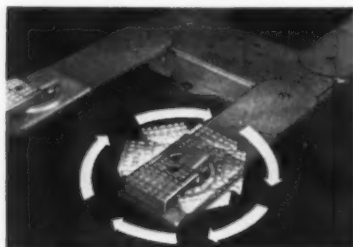
# new products

**THERE'S PROFIT IN THESE ITEMS FOR YOU**

## **Rotating Pads**

*Pads are standard equipment on lifts*

**The Joyce-Cridland Co.:** All 1960 models of the "Quick Spot" automotive chassis lift introduced recently have rotating pads as standard equipment. The pads, Rota-Quick, consist of two steel sections which may be raised separately for precise spotting of certain foreign cars. They provide either one of two height steps for extra clearance on muffler or tailpipe work on other foreign and domestic automobiles. The 1960 models differ from earlier versions only in the special Rota-Quick pads. Using basic arm patterns and with the pads flat, the lift will handle all 1960 domestic cars, including the "Big



Three" small entries, and most small and foreign cars at pre-

scribed pickup points, company states. For more information write: The Joyce-Cridland Co., 2027 E. First St., Dayton 3, Ohio.

## **Shock Nut-Buster**

*Removes nuts frozen by rust*

**The Gabriel Company:** Now available is a tool, which removes stud-end shock absorber nuts frozen by rust and corrosion. The Nut-Buster permits the removal of old shock absorbers in minutes, company claims.



A few turns of the driving head forces a tool-steel expansion chisel into the nut until it splits. The nut then can be removed. A ratchet and socket are needed to operate the Nut-Buster. It can also be used to remove corrosion-tight nuts under the hood of the car. For more information write: The Gabriel Company, 1148 Euclid Ave., Cleveland 15, Ohio.

## **Airless Spray Painting**

*Opens new avenues of spray applications*

**The DeVilbiss Company: Intro-**



duction of airless spray painting equipment has been announced. According to the company the airless method provides specific advantages for certain spray application. An example of a typical application is the spray painting of heavy machinery, interior structures and other surfaces where exhaust facilities for the removal of vapors and overspray are either very limited or nonexistent. On exterior

painting, the airless method permits coverage with wide spray patterns without creating excessive mist and rebound. The spray pattern produced by the airless gun has sharp, clean edges. Masking and shielding on most "rough" work can be largely eliminated company states. For more information write: The DeVilbiss Co., 300 Phillips Ave., Toledo 1, Ohio.

### Cooling System Tester

*Expansion device fits inside filler neck*

AC Spark Plug Division of Gen-



eral Motors: A new pressure cap and radiator tester has been announced. The tester will check automotive cooling systems at pressures of from one to 30 pounds. Operated by pump action, the tester uses an expansion device that fits inside the radiator filler neck instead of on the shoulder. A pressure gauge tells whether the radiator cap is good or faulty or whether there is a leak in the cooling system. For more information write: AC Spark Plug, Division of General Motors, Flint 2, Mich.

### Spark Plug Wire

*Heat-resistant wire has silicone insulation*

The Electric Auto-Lite Company: A spark plug wire for use where high engine compartment temperatures crack or damage conventional wire has been developed, company states. The Steelductor Wire has a silicone

insulation with a glass braid. The new wire features seven strands of low capacitance stainless steel wire, which are covered with a high dielectric silicone compound. The inner core has glass over braid for heat protection and strength. For more information write: The Electric Auto-Lite Co., Toledo 1, Ohio.

### Tire Cinch

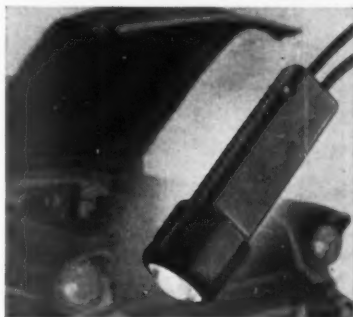
*Tubeless tire mounting simplified*

Par Sales Company: The new Parco Tubeless Tire Cinch has been introduced. It is a 17 feet length of armored rubber, 1 1/4 inches wide by 1/8 inch thick. To prepare tubeless tires for inflating the Parco Tire Cinch is wrapped around the tire several times and the loose end tucked under. The tire can then be inflated. The cinch can be used on all passenger car tires, small aircraft tires and small truck tires. It is said to eliminate the necessity for inflating or cranking, usually required when mounting tubeless tires. For more information write: Par Sales Co., 1647 North Gower Street, Hollywood 28, California.

### Timing Light

*Rests on fender so mechanic can use both hands*

King Electric Equipment Com-



pany: The small new timing light has a housing molded from Tenite butyrate plastic that simplifies the job of adjusting ignition timing while the engine is running. In use, the timing light leads are connected between the coil secondary and the distributor center tap. With the engine idling the light is aimed at the timing mark. Any necessary change in ignition timing is then made by distributor adjustment. For more information write: King Electric Equipment Co., 9123 Inman Ave., Cleveland 5, Ohio.

### Battery Charger-Tester

*Provides complete battery service*

Marquette Mfg. Co.: The new



Marquette Model BC 329 charger-tester provides a complete battery service to test-analyze, fast charge, slow charge or "car-start" boost and 6 to 12 volt battery. Its rated output is 100 amps at 6 volts and 50 amp at 12 volts. The BC 329 charger-tester is cooled by a fan and "down-draft" wind tunnel cabinet design. Nylon bearing wheels provide portability. For more information (Continued on page 102)

# 1959 New Passenger Car Registrations\*

STATE		Buick	Cadillac	Chevrolet	Chrysler	De Soto	Dodge	Edsel	Ford	Imperial	Lincoln	Mercury	Oldsmobile	Plymouth	Pontiac	Rambler	Studebaker	All Others	Total
Alabama	July	263	103	1615	69	39	177	46	1891	17	11	146	336	357	385	322	112	573	6662
	7 Mos.	2192	800	12409	405	238	994	408	12666	120	129	1051	2536	2386	2687	2144	712	4095	45969
Alaska	July	13	14	107	6	5	3	118	2	3	15	13	60	12	49	11	118	555	555
	7 Mos.	64	63	564	33	24	27	20	593	14	14	74	73	257	84	172	105	552	2753
Arizona	July	115	87	904	36	13	73	23	769	8	20	112	194	211	262	222	81	427	3557
	7 Mos.	804	638	5540	100	119	472	190	5430	81	161	653	1196	1225	1516	1127	568	2847	22724
Arkansas	July	148	68	1458	35	23	111	26	1290	3	9	132	170	272	299	276	101	273	4795
	7 Mos.	1107	503	7609	192	149	616	216	7314	170	222	1174	2393	3270	2805	3794	1243	10213	53830
California	July	1491	1534	14443	440	305	1262	282	11819	1240	1935	8106	16592	19148	18603	23257	7948	64223	354758
	7 Mos.	11737	10661	73554	2682	1859	7157	2106	79150	223	26	146	303	307	388	470	146	651	6184
Colorado	July	1278	671	9642	332	195	1019	286	8509	122	162	965	1857	1957	2221	2446	794	3692	36148
	7 Mos.	180	165	1408	99	59	165	24	1562	18	24	157	373	618	445	578	106	1031	7092
Connecticut	July	1616	1167	10694	719	407	1159	249	11323	181	256	1169	2975	4396	3242	4061	1355	7209	52200
	7 Mos.	71	40	430	27	24	63	8	363	3	2	54	67	151	101	76	24	199	1733
Delaware	July	459	248	2729	110	104	328	68	2476	26	39	270	601	1065	649	432	203	1216	11045
	7 Mos.	65	65	503	33	18	61	9	558	10	13	41	164	183	194	186	52	294	2552
District of Columbia	July	394	515	3360	221	122	371	78	3184	57	100	270	982	1234	1091	880	350	1962	15171
	7 Mos.	214	1031	7354	159	116	355	77	3812	63	112	390	863	916	958	1017	231	4459	18711
Florida	July	4871	4686	29787	974	593	2146	734	26345	493	972	2545	6589	6008	6190	6094	1738	28604	127359
	7 Mos.	309	181	2500	81	67	194	69	2474	14	30	157	416	532	678	406	156	1096	9362
Georgia	July	2681	1293	17335	587	364	1347	610	18155	114	239	1069	3649	3701	5000	2606	1163	7142	67196
	7 Mos.	87	32	432	17	13	39	112	2854	6	11	49	93	129	158	178	71	171	1904
Hawaii	July	692	321	28658	121	100	343	112	2854	43	61	401	757	737	1001	1067	389	1091	12955
	7 Mos.	1703	910	10606	366	276	791	289	9084	106	190	989	2509	2178	2984	2402	896	1960	38241
Illinois	July	12534	6996	69422	2708	1829	5326	2153	60593	800	1633	6675	15934	14881	19915	14540	6239	12279	257557
	7 Mos.	1034	387	6156	195	183	610	198	5508	57	74	540	1744	1529	1826	1405	623	1730	23859
Indiana	July	5697	2379	27909	1063	1072	2810	1096	27129	323	474	2789	5903	7180	8251	6244	5419	5439	114287
	7 Mos.	316	110	2444	93	51	483	80	363	17	27	246	480	575	549	631	174	481	8851
Iowa	July	2439	909	15791	634	405	1561	446	15752	116	165	1763	3585	3614	3726	3996	1396	2351	58281
	7 Mos.	290	107	13398	464	255	1209	343	11652	113	161	1128	2851	2828	2914	2590	872	3058	48943
Kansas	July	280	78	1569	50	30	138	46	1584	12	8	154	422	393	468	294	108	409	6023
	7 Mos.	1825	621	10237	296	222	925	429	10367	71	91	979	2810	2454	2621	1787	616	2481	38026
Kentucky	July	266	144	2038	60	50	94	59	2054	15	15	156	484	332	516	266	177	758	4810
	7 Mos.	2112	968	15588	358	267	799	385	13399	102	187	1030	3354	2179	3485	1671	758	4810	51993
Louisiana	July	65	32	536	20	11	78	170	3793	30	60	420	701	1261	931	1267	509	2139	16564
	7 Mos.	553	282	37658	148	84	481	305	15002	21	34	167	440	788	512	639	206	1009	9656
Maryland	July	1973	1160	16549	127	93	291	42	2391	21	225	1248	3248	5471	3352	371	1366	6496	63320
	7 Mos.	508	309	3455	201	156	451	88	4153	31	62	386	926	1394	948	1647	340	1730	16705
Massachusetts	July	3330	1933	18108	1177	890	2413	538	20516	251	486	2028	5858	7482	4890	7591	1725	8597	87611
	7 Mos.	1470	591	8502	274	392	826	318	8107	75	112	1123	2109	2305	2758	1750	508	1627	33849
Michigan	July	12900	5685	61637	2025	2143	5881	3023	64938	549	1305	8526	16273	15169	19522	12507	3649	12229	247666
	7 Mos.	526	195	3187	156	129	398	156	3261	30	42	375	769	1000	744	914	333	669	12886
Minnesota	July	3699	1339	18771	856	661	2020	781	20171	167	277	2105	5269	5215	4811	5171	1794	3700	76807
	7 Mos.	144	45	1054	34	16	62	19	968	6	10	74	229	238	237	150	69	326	3681
Mississippi	July	1134	369	6793	233	118	407	145	6143	39	78	428	1459	1384	1576	905	400	2061	11743
	7 Mos.	424	216	3387	101	62	370	69	3015	23	27	193	620	756	641	452	160	866	6842
Missouri	July	3826	1707	25844	647	530	2389	675	22092	154	290	1636	5903	5852	4912	4903	1720	6676	86427
	7 Mos.	96	41	564	23	17	68	17	505	5	2	61	99	156	177	102	31	62	13100
Montana	July	631	352	3573	151	100	453	165	3451	62	52	481	950	1004	859	973	416	921	14794
	7 Mos.	156	74	1364	55	21	124	20	1392	11	8	116	259	288	260	267	87	257	4759
Nebraska	July	1278	615	9021	368	177	799	200	9148	98	97	872	1799	1866	1838	1691	649	1640	32256
	7 Mos.	16	13	100	5	8	18	9	116	3	3	16	14	22	58	35	18	95	548
Nevada	July	188	185	944	47	42	104	68	1012	31	61	175	277	232	346	266	132	1048	5158
	7 Mos.	353	230	3058	109	67	389	124	2746	26	47	346	596	969	604	1131	433	1576	12804
New Hampshire	July	624	618	4612	274	195	553	86	4629	60	86	451	1151	1518	1483	1336	513	2166	20455
	7 Mos.	127	96	782	33	20	80	18	721	10	15	77	153	162	178	166	76	430	3107
New Jersey	July	5086	4532	30728	2462	1431	3502	764	28789	623	840	3295	8440	10573	9922	8237	3281	14604	137081
	7 Mos.	727	305	4338	166	88	429	128	3875	54	66	421	927	856	956	716	403	1606	68061
New Mexico	July	1506	1316	10129	658	411	1116	201	9656	140	193	1067	3384	3809	3314	3565	1198	5027	46677
	7 Mos.	11899	10018	66421	4592	2881	7676	1654	61242	1224	1787	7305	24360	23863	22355	19292	7480	31368	305594
New York	July	408	177	2779	108	67	389	133	8871	73	84	1007	2435	2435	2435	2435	2435	2435	10837
	7 Mos.	3053	1295	15896	638	449	1446	538	19504	105	188	1484	3765	4379	4196	2446	1199	6811	67352
North Carolina	July	545	184	3260	188	122	430	175	3681	39	43	436	896	1064	855	766	197	307	13100
	7 Mos.	1504	596	8280	322	297	1078	238	89529	534	821	6872	15566	15244	16965	13108	6019	16931	235994
North Dakota	July	11276	4863	55361	2333	2048	7043	2108	58173	13	23	195	488	429	505	434	137	454	7610
	7 Mos.	303	134	2236	61	44	153	33	1875	84	132	1025	2795	2090	2874	2025	753	2777	42810
Ohio	July	1920	885	12750	291	250	786	200	11193	7	18	148	240	302	396	627	223	921	6181
	7 Mos.	202	72	1422	234	303	622	362	8775	87	157	1014	1794	1976	2614	3860	1393	6019	40852
Oregon	July	1536	677	9427	410	412	1157	249	7730	113	116	946	1835	2642	2206	2580	874	2661	24561
	7 Mos.	1282	786	7925	610	412	1157	249	7730	113	116	946	1835	2642	2206	2580	874	2661	24561
Pennsylvania	July	9004	5464	49870	3482	2483	6758	1705	44135	782	943	5790	12371	17424	12931	14090	5670	16640	208936
	7 Mos.	51	40	382	18	10	36	8	561	5	12	43	73	127	653	1227	290	1878	15133
Rhode Island	July	480	378	3176	194	68	355	82	1282	5	8	82	174	297	221	199	82	552	4410

# I MAKE TUBE OR TUBELESS REPAIRS FAST AND EASY... THE **Schrader**<sup>®</sup> WAY!

John J. Sullivan  
Gorman's Service  
Bronxville, N. Y.



"It pays to do repairs right—because quality tire service leads to new tire sales. And it's simple the Schrader way. They supply everything we need to make repairs a profitable part of the business. For tube or tubeless repair—we make sure our stock of quality Schrader products is always complete."  
Why not see your supplier and do the same?

"... These are some of the Schrader products we use."



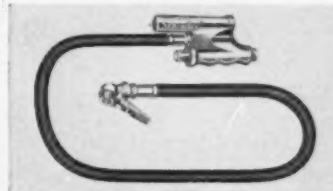
**CHANGE TIRE—CHANGE VALVE**—the new #992 valve inserting tool does it fast and easy!



**REPLACEMENT VALVES**—fit any tire to any car that comes in. What an inventory saver! Just two valves and two extensions.



**SELF-VULCANIZING PATCHES**—give a real cured-on repair, chemically! No heat. No smoke. No vulcanizer. All sizes in handy #5072 Patch Kit.



**CHUCK GAUGES**—Schrader #3650C Chuck Gauge with 3' hose and clip-on chuck is extra safe. Reduces bead blow-off danger—gauge, inflate, deflate—from a distance!



**CAPS AND CORES**—buy them from your supplier in bulk—100 to a box! Make it a tire service "must"—restore valve to factory-freshness with new Schrader core—every repair you make. And seal air in with a Schrader valve cap!

**REMEMBER:** The valve should be as new as the tire. Whenever you mount a new tubeless tire—always change the valve.

**Schrader**<sup>®</sup>  
a division of **SCOVILL**

A. SCHRADER'S SON • BROOKLYN 38, N. Y.  
Division of Scovill Manufacturing Co., Inc.

FIRST NAME IN TIRE VALVES

FOR ORIGINAL EQUIPMENT AND REPLACEMENT

*Made in America to American Standards of Quality*



# Famous AC "Firsts" All Add Up to

AC ANNOUNCES:

New

AC

FIRE RING

SPARK PLUGS



New AC Fire-Ring Spark Plugs are the culmination of AC's 51 years experience in the ignition industry. They incorporate every major advance in spark plug design, from AC's exclusive "Hot Tip" to the new knurled center electrode and clipped side electrode for easier sparking and minimum gap growth.

The term "Fire-Ring" describes what happens at the tip of a new AC Fire-Ring Spark Plug. The ignited fuels form a "flame front" that spreads out rapidly to ring the combustion chamber. This fire-ring heats the compressed gases, depresses the piston, and you get full, firm power.

## *Get Fired-up for Fall Sales...Order*



# New AC "Fire Ring" Performance



...to increase  
your  
profits!

AC engineers have designed an AC FIRE-RING Spark Plug to team up with the special combustion chamber shape and compression ratio characteristics of each car's engine—no matter what the make or year.

Be sure to install new AC FIRE-RING Spark Plugs when you replace—as you should every 10,000 miles. It's the modern way to make engines fire cleanly, quietly, powerfully. Remember—you get the finest first from AC!

AC SPARK PLUG  THE ELECTRONICS DIVISION OF GENERAL MOTORS

## AC Fire Ring Spark Plugs Now!



# SELLING SLANTS

## MONEY-MAKING FACTS

# ALL READY on the SMASH SPARK PLUG

**...WITH NEW  
AC TRAFFIC  
BUILDERS!**

### AC Fire-Ring Window Trim

Set your "sights" on the AC Fire-Ring Spark Plug Window Trim for Fall. As you can see, the full-color trim is designed to complement your service and announce AC Fire-Ring performance and the AC Space Age World Atlas offer. The display is sure to increase traffic and boost your gasoline and spark plug sales when you place it in your display window.

### AC Space Age World Atlas

Your AC Space Age World Atlas offer will command attention this Fall. There are 48 full-color pages in this 48-page hard-cover edition, including world maps and 10 pages of easy-to-understand space information. It's a truly fine, up-to-date world atlas for every one of your customers, especially those with children starting back to school this September.

You can sell or give away each AC Space Age World Atlas with one of your special Fall services, such as a tune-up or spark plug change. Or, you can furnish order forms which allow your customers to order their own atlases at the special low price of only \$1.35 each.

### AC Fire-Ring Advertising Campaign

During the Fall months, special AC ads will appear in *Life* magazine to announce your Fire-Ring performance program . . . Billboards in every major trading area will carry your Fire-Ring story to more than 30 million motorists daily . . . and, beginning in October, Art Carney television specials will be seen each month to help your sales efforts!

TUNE IN THE ART CARNEY SHOW, NBC-TV, NOVEMBER 13



**OF THE MONTH !**  
**FOR DEALERS**

# **"FIRE-RING" LINE to SALES RECORDS**

**...WITH NEW  
AC SERVICE TOOLS!**

**AC Cam Dwell Indicator** The new AC Cam Dwell Indicator is a high quality, precision instrument that simplifies the job of setting distributor points. With the AC Cam Dwell Indicator and an inexpensive timing light, you have *all* the tools you need to offer complete tune-up service. No electrical outlet is required, and you needn't remove the distributor when you use this hip-pocket size, portable AC Cam Dwell Indicator.

Unlike any other instrument of its type, the AC Cam Dwell Indicator eliminates the need for highly involved and expensive testing equipment. You can take this compact unit with you on road calls or use it at the work bench as well as under the hood of the car. The AC Indicator also serves as an electrical continuity tester to the distributor and it proves out shorts.

**AC Catalog Holder** Marshal all the parts lists and catalogs you have around your station, and store them permanently in one convenient holder . . . the new AC Catalog Holder.

This all-metal, red and blue colored AC Holder has four removable racks for permanent catalog storage plus "wings" to hold individual catalogs.

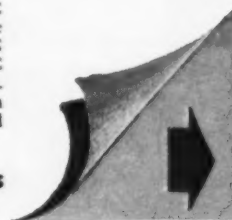
For finger-tip control of all your parts lists and catalogs, get this valuable, new AC Catalog Holder during the AC Fire-Ring Spark Plug promotion.



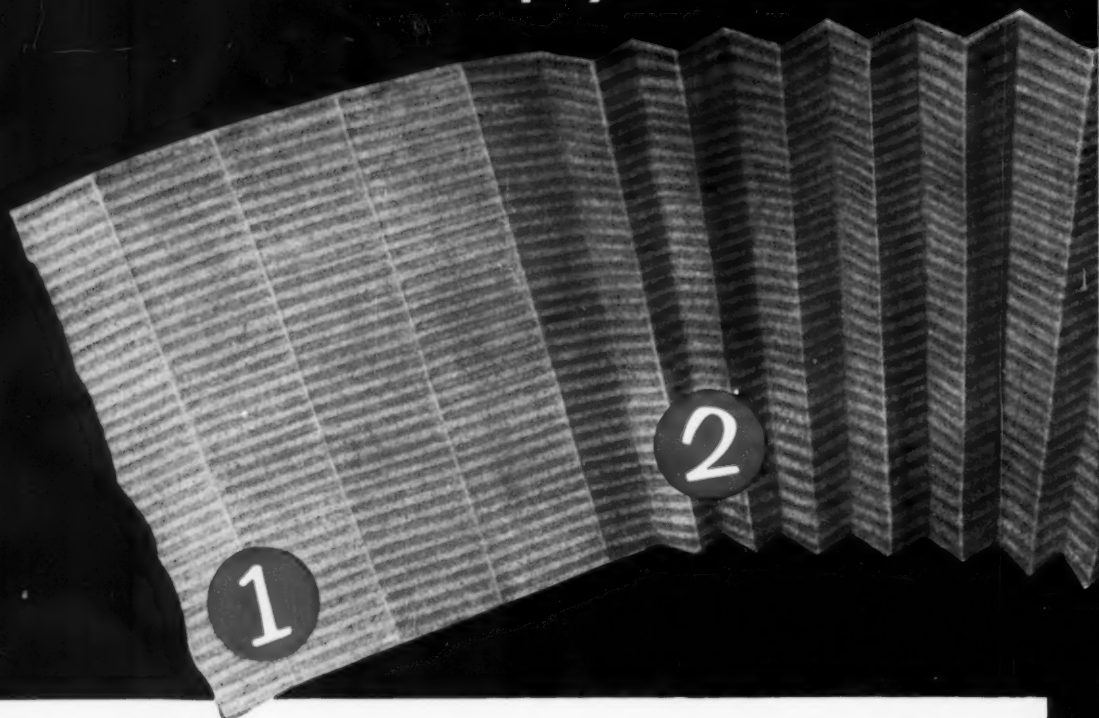
**HOW to  
get your AC  
"Fire-Ring"  
Promotion  
Package**

Include \$8.50 with your order for any 48 AC Spark Plugs and SPM-56 (includes AC Cam Dwell Indicator) or SPM-57 (includes AC Master Catalog Holder). You'll receive the AC Fire-Ring window trim with the AC Space Age World Atlas offer—the AC Cam Dwell Indicator or the AC Master Catalog Holder—and an extra 8-Pac of AC Spark Plugs worth \$8.24. When you have sold the 8-Pac, you have recovered \$8.24. The profit from the sale of the extra spark plugs, plus 26c, pays for the promotion package. *You'll also receive—free—a copy of the AC Space Age World Atlas, included in each AC Fire-Ring promotion package.*

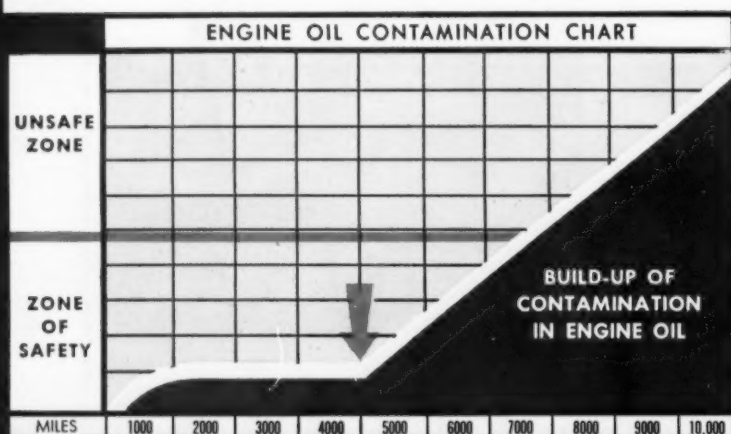
**GET READY for Fall Sales... Aim to Smash Sales Records  
...with AC "Fire-Rings"!**



Now, from **AC...TRIPLE-TRAPPER**  
to help you **SELL MORE**



Show them what happens  
when they forget to change!



● An oil filter is designed to hold dirt, dust and other contaminants that collect in 5,000 miles of normal driving. After 5,000 miles, the filter fills up, contaminants pile up rapidly as shown in the chart.

The best way to protect car engines from damaging dirt and grime is to change oil filters at least every 5,000 miles! So, when your customers ask for an oil change, recommend a filter change, too — and install AC Triple-Trapper Oil Filters — the finest engine protection money can buy!

**2 out of 3 cars need new FILTERS now...**



# protection for automobile engines **OIL FILTERS and motor oil!**



**Give them  
the powerful  
TRIPLE-TRAPPER message!**

AC announces an important development in the oil filter industry with the introduction of new Triple-Trapper protection. Here is the three-way protection you can offer your customers.

**TRAP NO. 1** is the filtering material itself, a resin-impregnated paper that traps particles as small as 1/15th the diameter of a human hair—particles you can't see with an ordinary microscope.

**TRAP NO. 2** is the amount of filtering area. The

AC filter has more usable area. Oil, passing through the filter, is spread out and slowed down over this greater area. Thus, the filter has a chance to catch fine particles. The trapped particles themselves form a filter "bed" which helps trap even finer particles.

**TRAP NO. 3** is the design of the filter element—a unique arrangement of folds that provide maximum filtering area hence maximum filtering capacity. Because of the greater capacity the filter is able to hold more particles.

AC SPARK PLUG  THE ELECTRONICS DIVISION OF GENERAL MOTORS

## **SHOW and SELL THE BEST—AC!**





# SELLING *SLANTS*

## MONEY-MAKING FACTS

# AC "TRIPLE-TRAPPER" POWERFUL INCENTIVES

## NEW "TRIPLE- TRAPPER" WINDOW TRIM

As you can see, the AC "Triple-Trapper" Oil Filter window trim is designed to complement your service with "Triple-Trapper" engine protection. This full-color window trim is sure to increase your oil filter sales along with lubrication and oil changes when you place it in your display window.



## NEW ADVERTISING PROGRAM

During the Fall months special AC ads will appear in *Life* magazine to announce the Triple-Trapper protection program . . . Billboards throughout the nation will carry your Triple-Trapper messages to over 30 million motorists every day . . . and, beginning in October, Art Carney television specials will help your dealers sell AC Triple-Trapper Oil Filters!



AC SPARK PLUG  THE ELECTRONICS DIVISION OF GENERAL MOTORS

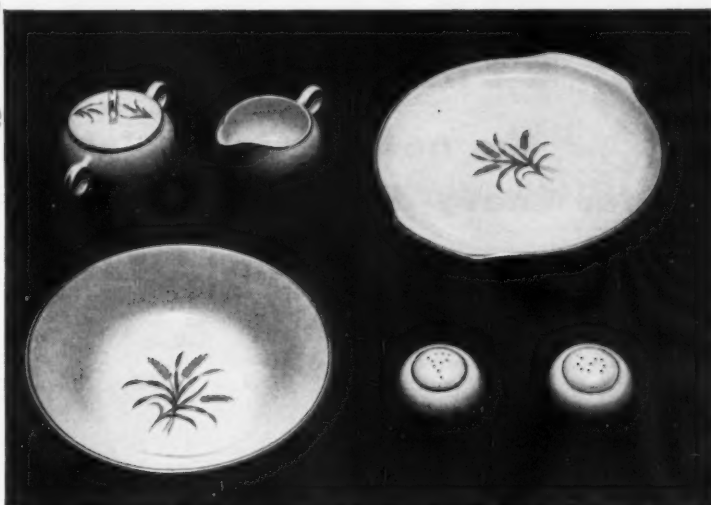
**OF THE MONTH !**  
**FOR DEALERS**

# PROTECTION presents... for FALL SALES!

**NEW**

## Universal Potteries' Dinnerware

Your wife will be pleased with this new filler set of "Ballerina" dinnerware in the "Wheat" pattern, as she is with the handsome 4-place setting, offered last Spring. The filler set includes a platter, a large vegetable bowl, salt and pepper shakers, a covered sugar bowl and a creamer. And, each piece matches the original set of sturdy, oven-proof "Ballerina" dinnerware, right down to the 22-carat gold stripe. Include \$7.60 with your order of any 24 AC Oil Filters and OFM-54. You'll receive new "Triple-Trapper" point-of-sale material, the filler set of "Ballerina" dinnerware, and 3 extra AC Oil Filters (popular types PF-122, PF-210 and PF-316) worth \$7.60. When you have sold the extra elements, you have recovered \$7.60. The profit from the sale of the extra filters pays for the promotion package.



**NEW**  
**Udico**  
**Can Opener**  
**and Knife**  
**Sharpener**

This versatile appliance will save your spouse time and energy in the kitchen. It's the "Kitchen Pal," the combination electric can opener and knife sharpener that cuts and holds the top of any size can, and hones the edge of a knife razor-sharp. There's no danger of cutting a finger on the edge of the can, either. The "Kitchen Pal" cuts it safety-smooth. All-metal—finished in baked enamel and chrome—"Kitchen Pal" also has rubber "feet" to prevent slipping.

Include \$18.35 with your order for any 72 AC Oil Filters and OFM-55. You'll receive new "Triple-Trapper" point-of-sale material, the "Kitchen Pal" knife sharpener and can opener, and 6 extra AC Oil Filters (popular types PF-155, PF-141, PF-131, PF-122 and PF-5) worth \$18.35. When you have sold the extra elements you have recovered \$18.35. The profit from the sale of the extra filters pays for the promotion package.

**ORIGINAL DINNERWARE STILL AVAILABLE.** The original offer of "Ballerina" dinnerware, 4 plates, 4 dessert dishes, 4 cups and 4 saucers is still available. Include \$7.60 with your order for any 24 AC Oil Filters and OFM-49. You'll receive the 4-place setting plus 3 extra AC Oil Filters (popular types PF-122, PF-210 and PF-316) worth \$7.60. When you have sold the extra elements you have recovered \$7.60. The profit from the sale of the extra filters pays for the promotion package.



of station wagons by 2.5 per cent.

The six-cylinder engine develops 90 horsepower. It has a compression ratio of 8 to 1 and a piston displacement of 195.6 cubic inches. Regular grade gasoline is recommended.

All Rambler American models are less than 15 feet long (178.3 inches), but provide interior room for five adult passengers. Hip room dimensions are 58 inches in the front seat and 45¼ inches in the rear. Leg room to-

tals in the front are 44 inches and in the rear 37½ inches

An important mechanical change for 1960 is the use of bonded brake linings instead of riveted linings. Self-adjusting brakes are offered as a low-cost option. Power steering is being offered for the first time on the 1960 models.

The 1960 line of Rambler Six and Rebel V-8 models features sculptured styling, economy of operation and a new three-seat

station wagon. The new models will be slightly shorter than comparable 1959 models. Interior dimensions, though, are the same.

Overall length has been reduced up to four inches. This was made possible by the design of the new bumpers and bumper guards. Wheelbase length remains at 108 inches. Overall length of both the 1960 sedan and station wagon is less than 16 feet (189.5 inches).

Horsepower of the Rambler Six will remain at 127. The Rebel V-8 has been reduced to 200 horsepower for increased fuel

# 2 NEW STARS in the

**the new bantamweight champion  
for heavy-duty service!**

Totally new design—3⅞" shorter, 2½ lbs. lighter, 4½ times faster with 250% more power. Features a durable steel hammer case for years of dependable service. A new concept in Impacttools for today's profit-minded mechanic. Handles every type of automotive service, from light sedans to heavy trucks, easily and quickly. New Select-Air Regulator gives you fingertip adjustment of power from 60 to 350 ft. lbs.; and for real economy, the I-R 407 uses 45% less air while operating.

## **ALL-NEW I-R 407 AIR IMPACTTOOL** / ⅝" Drive

Prove this new efficiency, new economy, by calling your I-R Jobber for a free demonstration today!

18-984



economy. Optional powerpacks will increase the Six to 138 horsepower and the Rebel V-8 to 215. Regular grade gasoline is recommended for all models.

The Ambassador V-8 by Rambler, features new exterior and interior styling and a new three-seat station wagon. The Ambassador V-8, built on a 117 inch wheelbase, is available in a Super and Custom four-door sedan, station wagon and the new three-seat station wagon, and Custom hardtop sedan and hardtop station wagon. The new models have a two-piece, die-cast grille, with a finely textured rec-

tangular pattern, which extends across the entire width of the car.

#### Powered by 250 hp

The Ambassador is powered by a 250 horsepower V-8 engine equipped with a twin-barrel carburetor. It has a compression ratio of 8.7 to 1, a displacement of 327 cubic inches, and a bore and stroke of 4 x 3 1/4 inches. It operates efficiently on regular grade gasoline. Offered as optional equipment is a 270 horsepower V-8 engine with a compression ratio of 9.7 to 1, equipped with dual exhausts.



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**outperforms heavier 3/4" models**

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**NEW I-R 8U  
ELECTRIC IMPACTOOL**  
/ 3/8" Drive



Intensive field tests prove conclusively that I-R's new Model 8U Impacttool even outperforms heavier 3/4" electric tools on car and truck repairs. New features include improved universal electric motor (6 amps. vs 5 amps on older model), T-type anvil for better power transmission, rugged new socket retainer durable reinforced rubber-nosed hammer case, more efficient impact mechanism that delivers 20% more power.

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**"It all began when my car started using oil."**



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WHEN MAC GETS  
THROUGH WITH 'EM

SO DO CUSTOMERS.  
HE USES  
**TIMKEN®** BEARINGS  
FOR SERVICE



NOTHING PLEASES CUSTOMERS like knowing they're getting the best service and the best replacement parts. So when it's a bearing job, use Timken® tapered roller bearings and tell your customers. It's a name they know means top quality. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable: "Timrosco".



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BEST-KNOWN BEARINGS FOR SERVICE...SO TELL 'EM IT'S...

**TIMKEN®**  
tapered roller bearings

here to  
help keep Chevrolet dealers  
rolling up  
new sales records...

elegance  
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*The Parkwood Station Wagon.*

"Nearest to perfection a low-priced car ever came." We believe that sincerely, for there's never been a car, past or present, quite like the '60 Chevrolet. Everything about it, every styling accent, every engineering detail, has been polished and refined to a degree of perfection never before thought possible

of a car in Chevy's price class.

The nicest part, to a Chevrolet dealer, is that this Chevy should suit just about everybody. It combines so much of its own well-known practicality and economy (witness Chevy's new economy-engineered V8 engine) with so much of the *Nearest to perfection a low-priced car ever came!*

luxury and hushed comfort usually associated with much higher priced cars. Chevrolet dealers across the country are going to be cashing in on everything new and different about this one! . . . Chevrolet Division of General Motors, Detroit 2, Mich.



# SUPERLATIVE



*The Impala Sport Sedan.*

# '60 CHEVROLET

HERE FROM CHEVROLET  
THE  
**COMPACT CAR**  
CREATED TO HELP★  
★ **CHEVROLET**  
**DEALERS CONQUER**  
A NEW FIELD OF CAR BUYERS!

# THE REVOLUTIONARY **Corvair** BY CHEVROLET



*The glorious Corvair 700.*

*America's only car with the engine in the rear, where it belongs in a compact car!*

*America's only car with independent suspension at all 4 wheels!*

*America's only car with an air-cooled aluminum engine!*

The product of nine years of research and development at the auto industry's most advanced facilities, Corvair is America's first truly compact, economical car that retains the ride and 6-passenger room Americans are used to in a big one.

The key to this small miracle: America's first and only rear-mounted aluminum engine—a lightweight 6 so revolutionary it can be packaged with the transmission and drive gears as one compact unit.

Because the engine is in the rear, the floor's practically flat, front and rear; there's plenty of foot room for everybody, including the passengers in the middle. Com-

bined with Corvair's unique body-frame construction by Fisher, this provides overall spaciousness comparable to the interiors of many postwar conventional-sized cars.

Shifting engine weight to the rear also makes for smoother, easier compact car handling and gives glued-to-the-road traction for cornering and sure-footed grip on ice, mud or snow. And with independent suspension at all 4 wheels—an advance comparable to the independent suspension of front wheels on full-sized cars years ago—you get a poised, unruffled ride that rivals even the costliest cars.

Corvair's size—some 5 inches lower, 2½ feet shorter and 1,335 pounds lighter than conventional sedans—makes it a joy to jockey through busy streets, a pleasure to park (no need for power assists). Its revolutionary Turbo-Air 6 gets 25 to 40% more miles to a gallon

of regular gas (a real magician on mileage). And, because the engine's air cooled, Corvair buyers never need antifreeze, get quicker warm-up with less wear on parts even on the coldest mornings (even heat for passengers comes quicker—almost instantaneously—from an optional airplane-type heater).

These are all things no front-engine compact car can offer. And with them, Chevrolet dealers can sell the sort of economy and practicality that would never have been possible if Chevrolet engineers had been content to make the Corvair merely a sawed-off version of a big car. One thing Chevrolet dealers can count on for sure: the revolutionary new Corvair is bound to open new areas of profit by conquering a whole new field of new-car buyers! . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

★THERE'S NOTHING LIKE A NEW CAR, and no COMPACT car like the CORVAIR by Chevrolet!★

## New Products . . . . . Continued from page 85

mation write: Walter G. Schilling, Adv. Mgr., Marquette Manufacturing Co., 307 E. Hennepin St., Minneapolis, Minn. or phone FE 9-9121.

### Magnetic Lamp

*Clings to underside of raised auto hoods*

Vimco: The new "Foothold"

lamp has a permanent magnet in its base, holds onto metallic surfaces with a 100-pound pull. This magnetic lamp was especially designed with machine-shop applications in mind, company states. The strength of its magnet gives it a firm hold, even on the sides of vibrating machine housings. For repair and maintenance work, its magnet helps it shed

light in tough places. It clings to under-side of raised auto hoods,



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*Includes display and storage space*

Rubbermaid Incorporated: A complete "selling center" for Rubbermaid Kar-Rugs—including both display and storage space is being made available. Top surface of the Master Merchandiser is of molded fiberglass in the shape of an automobile front floor, with drive shaft hump accurately contoured. This simulated floor area displays either one or two-piece Kar-Rugs



at waist level. Every detail of the mats can be seen without stooping. The fiberglass area is supported by four tubular steel legs on self-locking casters. For more information write: William F. Coulter, Dir. of Sales-Auto, Div., Rubbermaid Incorporated, 1205 E. Bowman St., Wooster, Ohio or phone HOWard 2-7015.

(Continued on page 112)



FROM THE MAKERS  
OF CD-2

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FOR YOU!

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—Now for only 95¢ retail, you can sell America's finest and best-advertised carburetor cleaner at a competitive low price! New Kleen Treet cleans out dirty carburetors and fuel lines . . . gives instant starts, faster pick-up, new-car performance. Every service customer is a prospect!

**NEW ALEMITE HI-PO** — Backed by the makers of famous Alemite CD-2...there's nothing else on the market like this new fluid additive concentrate for automatic transmissions. Cleans transmission . . . guards against leaks . . . restores transmission to original efficiency. Only \$1.95, retail.

## NEW ALEMITE STOP-LEAK

—Stops radiator and heater leaks with exclusive double-sealing action: (1) *Fast-working* chemical action stops leaks immediately . . . and (2) *long-lasting* metallic bond sets permanent seal. Circulates freely . . . works in pressurized systems and with anti-freeze. Money-back guaranteed. \$1.00 retail.

**NEW ALEMITE MELT**—A gasoline anti-icer that eliminates all problems resulting from carburetor or fuel line icing! MELT coats the inside of the entire fuel system and carburetor with an ice repellent film . . . promotes quick, easy cold weather starting. Money-back guaranteed. 49¢ retail.

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**STEWART-WARNER**  
CORPORATION

Dept. BW-109, 1826 Diversey Parkway, Chicago 14, Illinois





## Plymouth for 1960 . . . . •Continued from page 69

geometry was adopted to reduce the center of gravity; maintain low hood height; allow space in the engine compartment for the new manifolding system; and to permit mounting of the water pump on the side of the engine.

Starting with a new engine has made it possible to arrange accessories in keeping with ease

of maintenance. For example: the air cleaner, carburetor, intake and exhaust manifolds, water pump, generator, and starter are located on the left. Spark plugs, distributor, oil pump and filter, and fuel pump are on the right side. The dip stick is positioned near the front on the left side, away from the

exhaust manifold. The oil filter cap is near the front of the rocker arm cover.

Three new transmissions are offered on Plymouth—two for the new Six. The other is the optional heavy-duty manual—shift transmission for the 361-cubic inch engine option.

## Studebaker Lark . . .

*Continued from page 53*

Another change is found in the new cylinder head with modified combustion chamber geometry. Starting is improved by adoption of the Folo-Thru type starter. This provides positive engagement until the engine is running. The air cleaner on Lark Six Deluxe models has been altered to reduce air entry noise.

All models can be equipped with optional automatic drive or overdrive. Manual shift is standard. Modifications have been made in the torque converter for automatic drive to improve gear shifts. On Lark Sixes, with conventional or overdrive transmissions, rubber insulators have been added to shift levers to prevent transfer of noise.

Although the basic V-8 remains unchanged, there is a new power option with dual exhaust and four-barrel carburetor. This combination provides 195-Bhp at 4500 rpm, torque of 265-lb.ft. at 3000 rpm. Both V-8's operate on regular fuels.




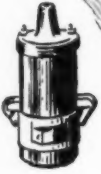
A plus feature is found in the addition of a filter between the heater core and blower to filter the air before it enters the interior of the car. All models have a two-speed electric windshield wipers as standard equipment.


The "limited-slip" type differential is offered as optional equipment on all models, as are power brakes and air conditioning. The "hill-holder" too is optional on all models, except those with automatic drive.

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## DELCO SUPER 11 EXTRA HEAVY DUTY BRAKE FLUID

This is the brake fluid that is original equipment on all new General Motors cars—a ready-made market for replacement. Improved with HTD, Delco Super 11 flows freely at —60°F. and exceeds the minimum boiling point and all other requirements set by S.A.E. 70R1 and the new S.A.E. 70R3 specifications. It's completely compatible with rubber and metal parts, chemically inert, physically stable. Sold through United Motors System and General Motors dealers.



## DELCO SUPER 99 HEAVY DUTY BRAKE FLUID

Here's heavy duty protection for cost-conscious customers. Free flowing at —60°F. and exceeds the minimum boiling point and all other requirements set by S.A.E. 70R1 specifications. It's chemically inert, physically stable and compatible with rubber or metal brake parts as well as other quality brake fluids. Sold through General Motors car and truck dealers and the United Motors System.

Both Delco brake fluids continue to be available in pints, quarts, 1-, 5-, and 30-gallon containers.

*Vital Parts for Automotive Progress*



**Moraine Products**  
Division of General Motors, Dayton, Ohio

## Edsel for 1960 . . . . . Continued from page 60

mounting.

The line includes seven models in all: five Ranger models and two 4-door Villager station wagons. Ranger models include: two-door sedan; 4-door sedan; two-door hardtop; 4-door hardtop; convertible. Villager includes—a six-passenger and a 9-passenger, four-door station wagon.

Powerplant options provide combinations of three engines and three transmissions. The 292-cu.in. 90-deg. V-8 is standard; the 223-cu.in. OHV six is optional; and the 352-cu.in. V-8 with four-barrel carburetor is optional. Transmissions include the standard three-speed manual shift gearbox; the two-speed au-

tomatic drive; and the dual-range automatic drive.

Mechanically the three Edsel engines remain unchanged except 6 as noted. The 293-cu.in. V-8 has a modified geometry for the wedged-shaped combustion chamber, with spark plug electrodes moved into the chamber cavity. In addition, the diameter of intake valves has been decreased to permit better fuel usage and improved performance.

The principal change on the Six is a modification of the intake manifold for better distribution and vaporization.

A quiet-contoured, high-lift camshaft is featured in the 352-cu.in V-8 to provide improved low speed torque.

Some of the more specific improvements and changes common to the powerplants are: Cross-flow radiator with separate expansion tank; new engine mount at the rear; redesigned vacuum control mechanism includes a smoother-acting, more stable breaker plate; new distributor condenser; special resistance wire in the wiring harness replaces the former resistor unit in the distributor point circuit. All carburetors have an externally-mounted, air type dashpot when automatic transmission is specified, to prevent stalling.

Modifications of the two-barrel and four-barrel carburetors include the revised dashpot system; relocation of the hot air source for improved choke operation; changes in calibration for better economy; revised vents on the cover plate. V-8 carburetors have a new automatic choke mechanism, employing a torsion type, spring-loaded choke plate.

A new, pleated cellulose air filter with larger overall diameter is fitted on all V-8 engines. A single exhaust system is standard, except on the convertible which has dual exhaust. Dual exhaust is optional when the 352-cu.in. engine is specified. Mufflers are made of aluminized steel and are located at the extreme rear of the car.

# HANSON'S

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Complete Motor Analyzer on mobile stand. All four units easily removed for portable testing. Never before so much value at this low price.....	
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Grips hex nuts on two faces—presses on two corners.



NUTMASTER bears on four faces—CAN NOT burr corners.



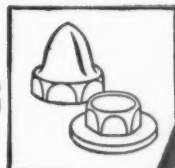
Grips square nuts on two faces—can burr corners badly.



NUTMASTER exerts pressure on three faces—no burrs.



NUTMASTER gets a firm grip on badly worn nuts.



NUTMASTER takes all shapes and styles with ease.

# Here's the Sensational New **NUTMASTER**

**Blackhawk**  
PRESENTS THE GREATEST  
OPEN END WRENCH DESIGN  
IMPROVEMENT OF ALL TIME

IT'S HERE! the revolutionary, European designed Open End Wrench . . . now MADE-IN-AMERICA by BLACKHAWK . . . that makes your work easier! The powerful turning forces are applied *only* on the **FLAT FACES**, *not on the corners of nuts and bolt heads!* NUTMASTER exerts tremendous torque—far greater than the conventional, open end wrench—puts on the pressure where it can't burr or deform corners.

This radically new design moves, locks, or unlocks any nut or bolt, hex or square, without any jockeying for fit. The slender head works easier in close quarters—seats instantly, turns better—even on battered nuts and bolt heads.

Tool-wise mechanics will go for NUTMASTER—it's lighter and less bulky—with a positive grip that decreases slippage and skinned knuckles. And . . . there's longer service life—no flat, inner jaws to spread.

Available in most popular sizes, the streamlined NUTMASTER is precision forged of finest alloy steel, triple plate chrome finish. Ask your BLACKHAWK Jobber to just let you handle it—try it out on his NUTMASTER Action Display. Brother, you'll buy it! The New Britain Machine Co., New Britain, Conn.



NEED A BLACKHAWK HAND TOOL?  
... PHONE YOUR JOBBER!



# Blackhawk

  
**HAND TOOLS**



## Ford for 1960 . . . . . Continued from page 61

loy cast steel exhaust valves; aluminum alloy pistons with chromeplated top ring; full-flow oil filter; 18-mm spark plugs; cross flow, pressure type cooling system with 180-deg. positive action thermostat and separate overflow tank; weatherproof ignition system; resistor-type high tension spark plug leads; alumi-

nized mufflers.

All carburetors for V-8 engines have a new automatic choke. Among the carburetor changes developed for the four-barrel version are: hot air source relocated from the intake manifold to the right-hand exhaust manifold for more reliable choke operation; fuel metering changed

to improve fuel economy.

The chassis frame is of ladder type construction, 11.8-in. longer than last year, wider at several points. Steering gear is of the recirculating ball and nut type. Front suspension has upper support arms mounted in threaded bushings, lubricated for life.

Brakes are of fixed anchor type, utilizing self-energizing primary and secondary shoes on each wheel. The hydraulic brake fluid reservoir now is a cylindrical can with a Mason jar type cap located on the fire-wall within easy reach for inspection or filling.

Ford offers two automatic transmissions as optional equipment. The familiar two-speed Fordomatic has been refined in detail through changes in calibration, a revised shift pattern, and changes in pressure regulator valve and converter stall speed. This has resulted in smoother shifts, a reduction in engine noise, and improved initial start and altitude performance.

## Brand New Falcon..

*Continued from page 47*

is rated at 90 at 4200 rpm. Compression ratio is 8.7 to 1.

The engine is fitted with a single-throat carburetor. It has a crank case capacity of 4.5 quarts. Air cleaner has a dry replaceable element. Cooling system has a capacity of 8.7 quarts. Both the generator and starter have been scaled down in size to meet the cost and weight objectives of the Falcon.

The electrical system is of 12-volt, employing a newly designed plunger pole type starter. It is said to provide fast, positive engine cranking at temperatures well below zero. The wiring system uses quick disconnect terminals and connections. The instrument cluster is a separate "floating" type unit set into the instrument panel.

*(Continued top of next page)*

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LEAK-PROOF Element  
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LIFE  
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\*Feridium, Resin-weld, Discardit and Micralytic are the Registered Trade Marks of Lee Filter Corp. Patents Pending.

**LEE FILTER CORP., North Arlington, N. J.**



Drive shaft and rear axle are on conventional Ford design, the drive shaft being 2½ in. OD with a standard U-joint front and rear. The rear axle has a ratio of 3.10 to 1 for both the standard three-speed manual shift transmission and the optional two-speed Fordmatic. The latter employs a 10¼ in. torque converter. This drive is coupled with low profile 6.00 tires mounted on 13 in. wheels.

The front suspension system employs the same ball joint principle found on Ford cars except for a few differences. The main difference is the placement of the coil spring and shock absorber. The spring and shock absorber are mounted on the top surface of the upper control arm, the upper end being housed in a rigid tower mounting in the front body section. The lower arm has a stabilizing strut, forming with the lower arm the so-called A-frame to guide the lower part of the spindle. This strut also serves to cushion the fore and aft thrust of the suspension. Balljoints are of standard steel construction similar to those on Ford cars. The front suspension also incorporates the anti-dive characteristics featured in Ford cars.

## Corvair for 1960 . . .

*Continued from page 49*

becomes No. 1; the left rear, No. 2. Firing order is 1-4-5-2-3-6-.

To provide for adequate cooling of the engine, the entire assembly is enclosed by a metal shroud that forms a plenum chamber. A centrifugal blower, mounted on a vertical shaft, is installed on the top of the crankcase cover, delivers cool air outward and downward over the cylinders and heads.

Carburetor design is noteworthy because the main nozzle cluster differs from the boost venturi type used conventionally. Instead of the ring-shaped end

that forms a small boost venturi, the main nozzle terminates in a cluster of four small radial tubes. This has been found more effective for use with the relatively low gas velocities developed with dual carburetors on a small displacement engine.

The exhaust system consists of a single muffler mounted close to the engine on the right side. The forward ends of the exhaust manifolds are connected to the

muffler by means of a common exhaust pipe.

Corvair employs the standard 12-volt system. It also has four sealed beam head-lamps, 5¾-in. in diameter.

**The modern child, hearing the story of Cinderella, asked:**

**"When the pumpkin turns into a golden coach, is that regarded as straight income or capital gain?"**

FROM BLACKHAWK'S LONG RED LIFTING LINE!

## NOW 1 MAN LIFTS, TRANSPORTS, AND LOADS UP TO 2 TONS

### Manual and Electric MOBILE CRANES

½ to 2 ton capacities  
... from \$124.50 to \$989.25

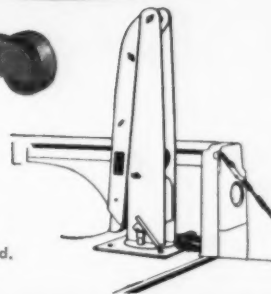
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½ ton manual type  
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mounting wells for  
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makes combined. From

tension cables *through*



( **TELEVISION-RADIO SUPPRESSOR** ) cable, it's

helpful data on the



## New Products .....Continued from page 102

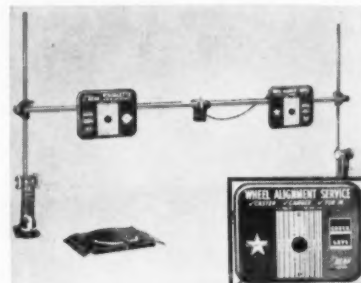
### Alignment Unit

*Ease of  
operation featured*

John Bean Division, Food Machinery and Chemical Corp.: A Visualette portable aligner makes it possible for the one-stall service station to have a wheel alignment operation. The Visualette now features a pair of

specially designed targets that allows easier reading of the charts. The targets also carry a sales message to promote alignment service. Since it is completely portable, it can be moved to the car or stored in a space only 1 by 9½ feet. The Visualette makes all checks with direct readings. The only tool required to prepare the car for all checks

is a hub cap remover. For more information write: Harry



Schaefer, Auto Dept. Mgr., John Bean Division, Automotive Dept., 1305 S. Cedar St., Lansing, Mich. or phone IV 4-9471.

### Clamp Kit

*Adaptable to  
any size*

Perm-A-Manufacturing Company: Now in production is the Perm-A-Grip Clamp Kit, which represents an adaptation of features found in the company's Universal Hose Clamp. Clamps for any application can be made to accommodate any diameter without the need for special tools, company states. The corrosion resistance qualities make Perm-A-Grip adaptable for most applications, and will withstand maximum related pressures. For



more information write: A. E. McElroy, Pres., Perm-A-Manufacturing Co., 296-98 N. Spring Garden St., Ambler, Pa. or phone MI 6-0216.

### Catalyst Holder

*Snaps to side of can*

Unican Plastics Co., Inc.: A view pack catalyst holder has been de-  
(Continued on page 116)

**THIS IS THE KEY  
that opens the door  
to**



**TUNE-UP  
SERVICE and  
PROFITS!**

Here are the new TUNGSTEN Add-A-Section Assortments—designed with doors that lock and protect your investment in TUNGSTEN Ignition Parts! Each assortment is customized to fit any service operation. You start with the basic assortment (Illustr.) and simply build up to super service with each Add-A-Section Assortment.

Order an assortment cabinet today—Add-A-Section as you expand your service! See how quickly you build a better ignition tune-up business as you service every car!

TUNGSTEN Add-A-Section Assortment Cabinets are free—to the dealer—all you do is pay for the genuine TUNGSTEN Ignition Parts!

Ask your Jobber or write for Catalog

NO. DA-119 (Illustr.) Contains: — 72 Contact Point Sets, 51 Condensers, 20 Rotors, 15 Brush Sets, 13 Distributor Caps, 6 Coils, 8 Resistance Units — plus the complete TUNGSTEN Catalog, Cross-Reference Guide and Wall Chart.

TUNGSTEN CONTACT MFG. CO.  
North Bergen, N. J.



NO. DA-119

(Note: — All assortments available in Heavy-Duty.)



Add-A-Section Assortment



## Buick for 1960 . . . .

*Continued from page 54*

been discontinued. One is air ride; the other is the Triple-Turbine automatic drive. Another feature is a new exhaust system with a single muffler mounted transversely at the rear.

Although Buick is retaining the two basic 90 degree V-8 engines—364—and 401 cu. in. displacement—without major changes in detail, the 364 cu. in. LeSabre engine is available in four options. One for use with the manual shift transmission; three for use with the Twin Turbine drive. The three latter versions are described as follows. . . The Standard Model has compression ratio of 10.25 to 1, employs a two-barrel carburetor, and produces a torque of 384 lb. ft.

Regular Gas Option has compression ratio of 9 to 1 for utilizing regular gasoline. It has a two-barrel carburetor which produces a torque of 375 lb. ft., and has higher fuel economy with a slight decrease in performance.

Performance Option is fitted with a four-barrel carburetor. With compression ratio of 10.25 to 1, this version delivers a torque of 405 lb. ft. It has greater activity on the road coupled with high acceleration with only a slight decrease in fuel economy compared with the Standard option.

Invicta and Electra models are fitted with the 401 cu. in. engine, providing 445 lb. ft. of torque and high performance characteristics.

New light-weight alloy parts include the valve rocker arms, generator support bracket, and two generator end frames. 1960 engine contain 29 lb. of light weight parts, a saving of some 57 lb. compared with previously used cast iron or steel parts.

Engine smoothness is im-

*(Continued on page 122)*



## NEW PROTO TRUARC<sup>\*</sup> RETAINING RING PLIERS

**SAVE TIME  
DO THE  
JOB RIGHT**

on engines, transmissions, power accessories, brake cylinders, rocker arms, pistons, pumps.

### Good reasons why:

- 12 Proto Truarcs, designed by the manufacturers of Truarc Retaining Rings, handle rings best, fastest.
- Precision ground tips, induction hardened at just the right angle, fit right, save time, prevent ring distortion.
- Tips are permanent . . . can't lose them, don't have to set them . . . just pick up the right plier and go to work.
- Two or three Proto Truarcs will handle all your usual requirements . . . and pay for themselves in time saved every week.
- Internal, External, and Universal (handles both types) pliers are available. Also 45° and 90° offset tips on some types.

To get the right plier, just tell your jobber the diameter of the shaft or the bore you're working on. He'll give you the right size in a jiffy. From then on, you'll **save minutes** everytime you have to remove and replace retaining rings.

Get the Proto Truarcs you need from your Proto Jobber.

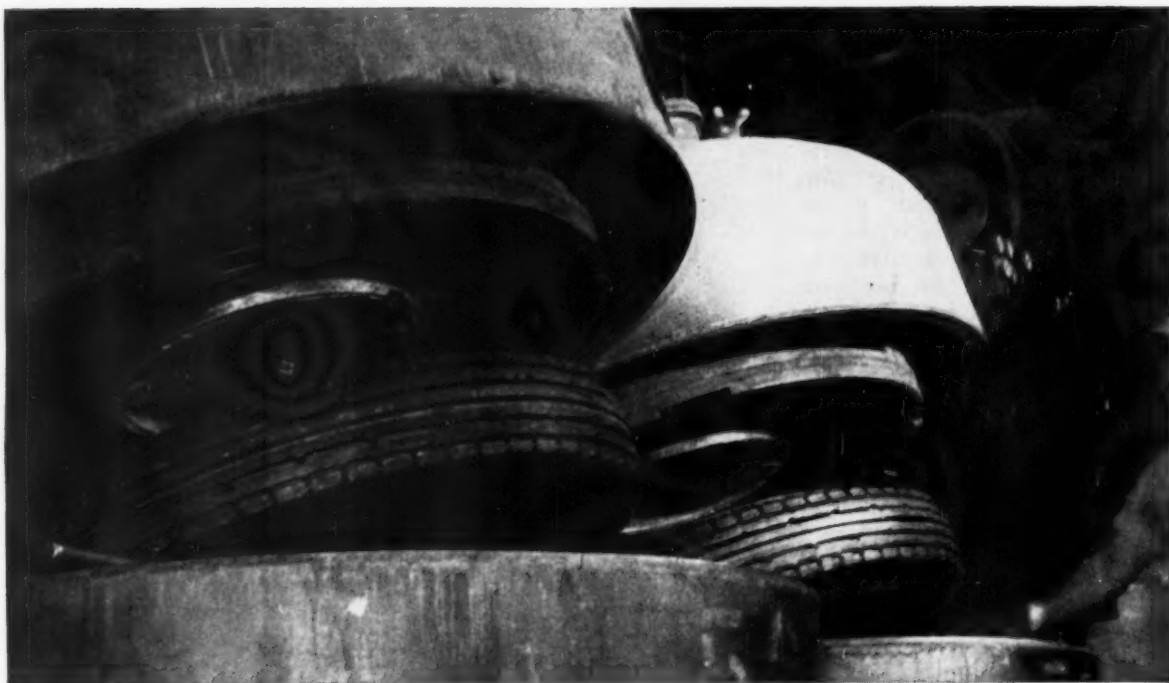


2206 Santa Fe Ave., Los Angeles 54, California  
506 Allen St., Jamestown, New York  
1706 Oxford East, London, Ontario, Canada

\*Registered Trademark of Waldes Kohinoor, Inc.



# THE U. S. TREASURY SALUTES THE RUBBER INDUSTRY



**and its people who buy Savings Bonds and strengthen America's Peace Power**

Americans who work in the rubber industry are proud of the rapid strides being made in their field, both in volume and in variety. Automotive rubber products and molded and mechanical rubber goods show constant gains in quality and quantity. Further, the rubber industry has done pioneer work in such novel applications as moving sidewalks and collapsible tanks for liquid storage.

People who work in this 7 billion dollar industry are proud of another thing, too: the help so many thousands of them are giving to America's Peace Power through the purchase of U. S. Savings Bonds. By regular purchases of Shares in America, these patriotic and forward looking people are reinforcing their own security after retirement. By this means they establish reserves for emergencies as well as for long range family projects, like education and home building.

If your company has not, thus far, set up a Payroll Savings Plan, you can start immediately. Just telephone your State Savings Bonds Director and accept the help he is anxious to give you. Or write to Savings Bonds Division, U. S. Treasury Department, Washington, D. C.



Harold E. Kalb is shown here at his work in one of the great manufacturing plants of the rubber industry. Like many thousands of his fellow craftsmen, Mr. Kalb is using his company Payroll Savings Plan to contribute regularly to the Peace Power of his country.



**Chilton's MOTOR AGE**



THE U. S. GOVERNMENT DOES NOT PAY FOR THIS ADVERTISEMENT. THE TREASURY DEPARTMENT THANKS, FOR THEIR PATRIOTISM, THE ADVERTISING COUNCIL AND THE DONOR ABOVE.

ing is not that high, check the generator output by grounding the field terminal momentarily.

On Ford products, ground the field terminal to the armature terminal at the regulator. The reading obtained on the meter will be available generator voltage unaffected by the regulator. On 12 volt system, the available voltage should be near or at 18 volts, on 6 volt systems, 9 volts. Indication of 15 or  $7\frac{1}{2}$  volts, mean that the generator is not producing enough voltage and will have to be replaced or rebuilt. If the generator proves to be in good shape, the regulator is at fault.

Only two relative small pieces of equipment are needed to overhaul a generator: A growler to check the armature windings; and a lathe to turn and undercut the worn or out-of-round commutator. Remove the generator, and wash off the grease and dirt. Disassemble the unit by removing the long screws from the end of the case. Remove the armature from the case, and check the rear bushing for wear. If the rear bushing is worn and the armature is touching the field winding, the armature should be discarded.

Inspect the generator end plate assemblies for cracks, poor insulation, or loose rivets. Examine the brushes for free movement in the brush holders. Replace brushes that are worn. Check the brush spring tension with a pull scale. If the tension is not between 26 and 34 ounces, replace the springs. Inspect the armature and field windings for worn insulation, overheating, and poor connections. Solder any connections as required.

## Bench Test

Place the armature on a growler and test the armature for shorted windings. Rotate the

armature slowly, when a shorted winding is under the steel strip it will cause the strip to vibrate. Replace the armature if the winding is shorted. Test the armature for a short circuit to the shaft by placing one test prod on the armature core, and the other test prod on one of the commutator segments. If the volt meter indicates any voltage, the armature windings are grounded to the shaft, and the armature should be replaced.

Check for open circuit in the armature; examine the commutator for evidence of burning. A spot burned on a commutator is caused by an arc formed every time a commutator's segment connected to the open circuit passes under a brush. If an open circuit exists in the armature, replace it.

Check the field coils for an open circuit. First remove the ground wire from the generator frame and suspend the wire in midair, using a test lamp, connect the field terminal with one test lamp prod, and the suspended ground wire with the other test prod. If the test lamp fails to light, the field circuit is open. Check for loose or broken connections at ground field terminals, and at the wire, which connects the two fields together.

If tests still indicate an open circuit, replace the field coils. Test the field coils for ground. Connect the field terminal with one test prod and a test lamp, and the generator frame with another test prod. If the lamp lights, the field circuit is grounded, and the fields must be repaired, or replaced.

Test the insulated brush holder for a short circuit, place one test prod of the test lamp on the brush holder, and the other test prod on the end plate. If the test lamp lights, the brush holder is shorted, and the end plate as-

sembly must be replaced.

## Turning Armature

If commutator is rough, scored or out of round, it should be turned down the lathe, or with a turning and under cutting tool. Remove no more copper than necessary to clean up the commutator. After the commutator is turned down, under cut the mica between the commutator segments  $\frac{1}{32}$  inch below the copper, with a special under cutting tool. Then polish the commutator with 00 grit sand paper to remove all burrs.

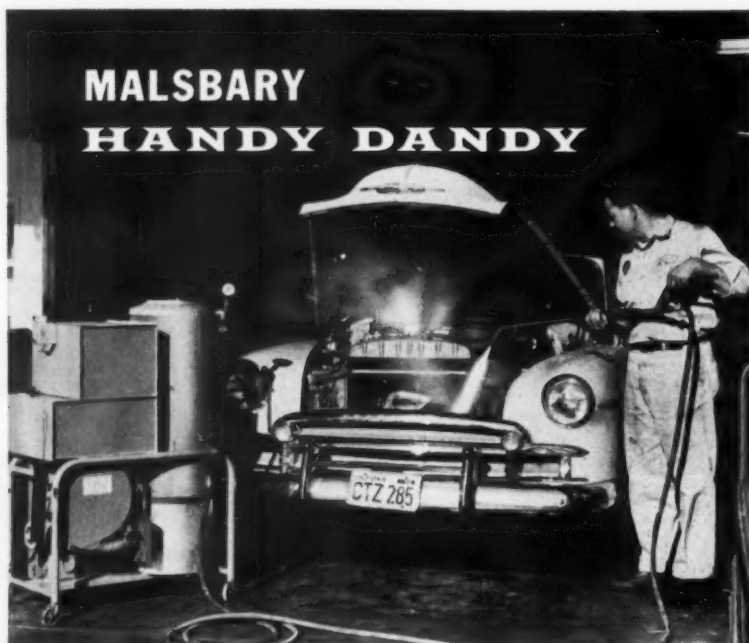
Never use emory cloth on the generator or armature. New generator brushes should always be seated to the commutator, to provide good contact, and prevent brush noise during initial wearing. This can be done by sanding in the brushes, with a strip of 00 sand paper. Make sure the new brushes slide freely in the brush holders.

## Reassembly Notes:

Before assembling the generator be sure all parts, including the bearings have been examined for wear and tested. Insert the brushes in holder and connect leads. Retract the brushes, until the springs ride against the side of the brushes, to retain them in their retracted position. Then carefully assemble the remainder of the generator. Every generator should be polarized before starting the engine.

To assure correct polarity on Ford products disconnect the wire from the field terminal of the generator regulator and momentarily touch it to the battery terminal of the regulator. Quick surge of current will correctly polarize the generator.

On GM and Chrysler Corp. cars that are equipped with a single contact regulator, momentarily connect a jumper lead on regulator across "Gen" and "Bat" terminals before starting engine.



## MALSBARY HANDY DANDY

Caster mounting, plus hose and gun rack, permit use of oil-fired Handy Dandy anywhere in shop or yard. Gas-fired, stationary model also available.

### Puts **M**oney in **Y**our **P**ocket

The budget-priced Handy Dandy steam cleaner costs so little it quickly pays for itself in extra earnings from cleaning engines, parts, underbodies, fleets, used cars. Try it! You'll find it delivers cleaning pressures the equal of cleaners costing up to double its low price.

Handy Dandy is built by Malsbary, the recognized leader in steam cleaning equipment. Anyone can operate it. To regulate cleaning blast, you simply set burner control to desired pressure — then open cleaning gun valve. Malsbary orifice-in-nozzle assures you hard-hitting solution stream without bellowing or work-hiding fog.

This simple, dependable Malsbary Handy Dandy puts you in the cleaning business at the lowest possible operating and maintenance cost. Nation-wide network of authorized sales and service centers — there's one near you.

See for yourself how much the Handy Dandy can do to put extra money in your pocket. Ask your Malsbary dealer for a try-and-buy trial **now**...or write us.

138

Ask about the Malsbary green steam cleaner hose... it's durable, oil and abrasion resistant.



845-92nd Ave., Oakland 3, Calif.

## New Products . . . .

*Continued from page 112*

signed by UNICAN for their line of Plastik autobody fillers. This view pack, made of transparent plastic, snaps on to the side of

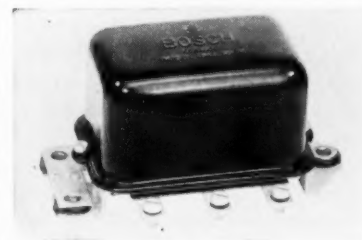


the Plastik can and anchors itself to the top and bottom ridges. It is designed for easy removal by the autobody man when needed for mixing. The Plastik view pack holds the catalyst tube upright to prevent leakage. At the same time it keeps the catalyst within sight and reach. For more information write: J. C. O'Donnell, Pres., Unican Plastics Co., Inc., 915 Hartford Pike, Shrewsbury, Mass. or phone VIKing 4-4581.

### Voltage Regulators

*Covers practically all 6-volt applications*

**Robert Bosch Corporation: Volt-**



age plus Current Regulators are now provided in a compact six-type line. Offered are such features as the following: Double contact construction that assures positive voltage regulation.

*(Continued on page 120)*

*Mighty Satisfying  
for Olds Dealers!*



NINETY-EIGHT HOLIDAY SPORTSEDAN

**A New Balance of Beauty, Ride and Power...to give Olds Dealers a head start into the Rocketing Sixties!**

The 1960 Oldsmobile line—17 gleaming new models—is one Olds dealers can be proud of... can profit from! For here is radiant beauty done in such quiet, good taste. Here is a ride that excels—*quietest*, smoothest, steadiest, a prospect ever tried! Here is a new balance of power—the REGULAR ROCKET Engine that thrives on the

thrif of lower-cost, regular gas, standard on every Dynamic 88 model... the PREMIUM ROCKET that gets the most from premium fuels, standard on Super 88 and Ninety-Eight models. Back these exciting '60 features with Oldsmobile's high owner loyalty, high trade-in value and high product quality, and you have one of the most satisfying combinations in the automotive world today. That's why, more than ever for '60... it's great to be with OLDS!

**OLDSMOBILE FOR 1960**

OLDSMOBILE DIVISION OF GENERAL MOTORS CORPORATION, LANSING, MICH.



SUPER 88 HOLIDAY SCENICOUPE

DYNAMIC 88 CELEBRITY SEDAN



# CARTER CARBURETOR ANNOUNCES THE ADDITION OF

# 8



## NEW PROTECTIVE PACKAGE

Each Zip-Kit enclosed in  
air-tight, moisture-proof,  
heat-sealed, metallic foil.  
No more "mysterious  
disappearance" of parts.



# NEW Zip-Kits

FOR MORE COMPLETE COVERAGE

NOW A TOTAL OF **98** LOW-PRICED  
HIGH-VOLUME PROFIT MAKERS FOR YOU

**This Is Your Profit Package:**

Yes, here it is: genuine original equipment parts in the new low-priced Carter Zip-Kit—supplied by the manufacturer whose carburetors already are on over 25,000,000 cars and trucks on the road today. Stock up now—call your Carter supplier today!

**GENUINE ORIGINAL EQUIPMENT PARTS:**

- NEEDLE AND SEAT
- PUMP PLUNGER
- GASKET SET
- FLOAT GAUGE... *Complete application information and simple instructions for quick, easy installation.*



**CARTER CARBURETOR**

DIVISION OF **acfi** INDUSTRIES, INCORPORATED • ST. LOUIS 7, MISSOURI



## Shop Kinks . . . . .Continued from page 116

Steep-drop voltage that sharply reduces generator voltage, thus eliminating danger of damage from over-charge, resulting in longer battery life. Pre-aging that insures permanence of all voltage and current settings. Shielded resistors and rubber gaskets that seal against moisture and dust. For more information write: Richard A. Neece, Asst. Sales Mgr., Robert Bosch Corp., 40-25 Crescent St., Long Island City 1, N.Y. or phone STillwell 6-1644.

### Brake Cylinder Hone

*Provides controlled honing pressure*

**Lisle Corporation:** A new 2-stone brake cylinder Hone designated the Model BJ "Mighty Mite" has been announced. The Mighty Mite will handle cylinders from

$\frac{1}{2}$ " to  $2\frac{3}{4}$ " diameter, covering brake work on all imported and



American made cars and trucks, company claims. It is designed to provide controlled honing pressure in all types of brake and small engine cylinders. An improved flexible shaft makes it easier to hone wheel cylinders right on the car. For more information write: O. S. Gregory, Sales Mgr., Lisle Corp., 807 E. Main St., Clarinda, Ia. or phone LI 2-2156.

### Trunk Lid Holder

*Adjusts to all levels*

**Ramco Manufacturing Com-**

pany: The "Jiffy" Trunk Lid Holder is easily attached in seconds to hold the auto trunk lid securely at all positions. Holder keeps trunk lid in position from minimum to maximum legal trunk lid level so that unobstructed rear vision can be maintained. It is said to eliminate use of rope. Holder fits all cars and will not scratch or mar bumper or paint. For more information



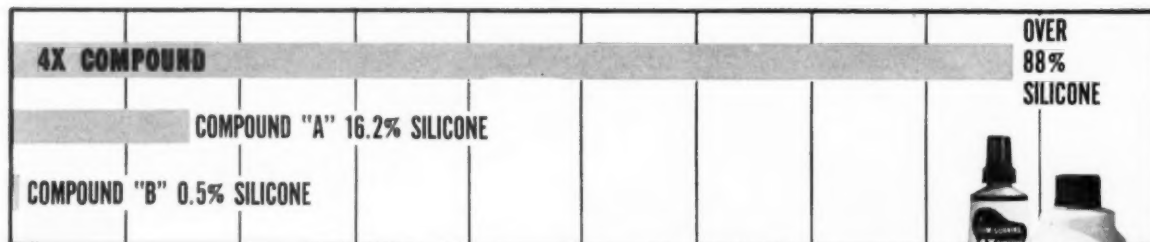
write: R. A. Matthiessen, Sales Mgr., Ramco Manufacturing Co., 540 Westfield Ave., W., Roselle Park, N.J. or phone Chestnut 5-4500.

## USE 4X, THE ALL-SILICONE RUBBER LUBRICANT . . . TO GIVE YOUR CUSTOMERS THE SERVICE THEY EXPECT

- ★ Stops squeaks and sticking of weather-stripping, prolongs life of rubber parts.
- ★ Lubricates radio antennae, improves reception; ideal lubricant for window channels.
- ★ Keeps battery terminals clean, minimizes corrosion build-up, prevents electrical losses.
- ★ Protects ignition systems, keeps moisture out, preserves wiring.

### LABORATORY TESTS PROVE:

Dow Corning 4X Compound contains 5 times more silicones . . . lubricates 10 times longer!



**Dow Corning CORPORATION**  
MIDLAND, MICHIGAN

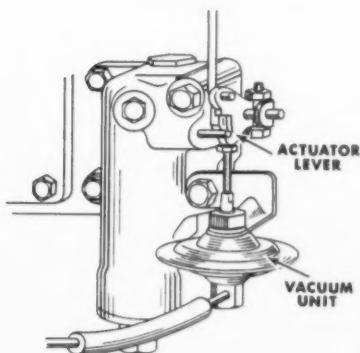
Order 4X Compound or Spray from your jobber today. Write for new brochure containing straight facts about "silicone" lubricants . . . address dept. 1522



## Vacuum-Pitch Control

*Device cuts fuel consumption  
on '55-'59 Buicks*

**Renberles Products:** VPC Vacuum-Pitch-Control for 1955-59 Buicks with Dyna-Flow transmissions has been introduced. It is a vacuum operated control to actuate the pitch of the stator blades in Dyna-Flow in a modified manner from the ordinary operation. Under low vacuum VPC actuates the stator blades into low pitch without the accelerator being fully depressed to the floor. This reduces flow of fuel through the carburetor. As engine load drops and vacuum in-



creases, VPC releases the stator blades to normal driving pitch. For more information write: R. M. Smiley, Gen. Mgr., Renberles Products, 18606 Fitzpatrick Ave., Detroit 28, Mich.

## Spark Plug Manual

*Helpful servicing  
hints listed*

**Hastings Mfg. Company:** Company's latest spark plug catalog containing interesting tips on plug installation and servicing is announced. Information on its "Fire-Power" and "Aero-type" units is also given. The current catalog lists applications in foreign cars, garden tractors, power saws, lawn mowers, marine and stationery engines and construction equipment, as well as passenger cars, trucks, buses

and tractors. Write: Hastings Mfg. Co., 1028 Chamber of Commerce Building, Indianapolis, Indiana.

## Service Manual

*Covers air compressors  
and spray equipment*

**DeVilbiss Company:** The 1959-60 edition of the DeVilbiss Service manual of over 400 pages has been announced, containing parts lists, general information

on installation, operation and other service information. The new manual provides up-to-date literature and has been compiled in line with a policy of issuing a new volume when-ever sufficient changes accumulate to make it necessary, the company states. Write: C. R. Pipes, Natl. Serv. Mgr., The DeVilbiss Company, 300 Phillips Ave., Toledo 1, Ohio or phone GREENwood 4-5411.

*(Continued on page 126)*

**"Snaplock's swivel action helps us keep pace with our busy service schedule"**

—says John Dapper,  
service manager  
of Mullane Ford,\*  
Bergenfield, N. J.

SNAPLOCK HOSE CLAMP'S  
UNIQUE "SWIVEL ACTION"  
SCREW MAKES APPLICATION  
EASY, FAST AND POSITIVE!

CAN'T SHAKE LOOSE... THE  
GREATER THE PRESSURE, THE  
TIGHTER THE GRIP!

\* Winner 1959 Nat'l Ford Dealers  
Assn. Service-Parts Sales Award

"We're always busy at MULLANE FORD and top quality parts that install easily and fast protect our profitable service business. When we're loaded with seasonal radiator and heater hose jobs we like to make installations with Snaplock clamps. . . . They're a cinch to put on -- save us valuable time -- and guarantee a leakproof grip."



*Ask your  
jobber now  
for Snaplock  
hose clamps.*

**The pacesetter in hose clamps since 1913**



BROOKLYN 7, NEW YORK

## Buick for 1960 . . . . . Continued from page 113

proved by the introduction of a new transmission mount of single shear type. It utilizes the soft shear rate of the rubber sandwich to support the powerplant, takes thrust by the firm rate of the rubber in compression. In addition, the design is such that the mount is less subject to assembly variations.

This year the Twin Turbine drive is standard equipment on Invicta and Electra series, optional at extra cost on LeSabre. The manual shift transmission is standard on LeSabre. Some improvements have been made in the Twin Turbine drive. One is the introduction of a needle type thrust bearing to replace the

stator plain thrust bearing used up to now. In addition, the oil cooler pipes have been rerouted and positioned adjacent to the engine.

Power brake unit has been relocated high on the dash for accessibility. New control valve design with a variable reaction rate is used to obtain lighter initial pedal effort. A rolling diaphragm unit applies vacuum without the friction associated with a large sliding piston. On both manual and power brakes the stop light switch is relocated to the master cylinder.

## Stewart-Warner DELUXE TWIN GAUGE PANEL Meets The Demand—Makes The Sale!



**Assures complete engine safety . . . adds modern styling to any car interior!**

Modern cars create new instrument market—and new profits for you—when you offer your customers Stewart-Warner's smartly styled Deluxe Twin Panel. Besides battery and oil warning lights, car owners need an ammeter and oil pressure gauge for complete operating safety. Stewart-Warner's new Deluxe Panel meets this important need. Get your share of this new instrument market with Stewart-Warner's "made-to-order" combination:

**Deluxe Panel.** Luxurious off-white "Colonial" grain color harmonizes with any interior . . . holds any 2" or 2 1/4" diameter Stewart-Warner Instruments. Complete with bracket, light wire, socket and installation instructions.

**Stewart-Warner Ammeter.** Tells actual rate of current flow, indicates need for adjusting voltage regulator, indicates overcharging or undercharging of battery.

**Stewart-Warner Oil Pressure Gauge.** Tells exact oil pressure in pounds, at any engine speed—helps assure safe engine operation.



Call Your  
Stewart-Warner  
Wholesale  
Representative Today!

Dept. AD-109,  
1840 Diversey Parkway,  
Chicago 14, Ill.



**INSTRUMENT DIVISION**  
**STEWART-WARNER**  
**CORPORATION**

## New Chrysler . . . . .

*Continued from page 57*

cent glow without glare or shadow. AC current is supplied by a transistor power supply located under the instrument panel.

Ram-Induction, unique this year, is a special induction system designed for Chrysler 300F. The system employs two outboard-mounted four-barrel carburetors. One is on the left feeding the right bank; the other on the right, feeding the left bank. The connection from the carburetor to the intake manifold on each side is by means of rectangular pipes, 30 inches in length.

Chrysler Division engines remain the same as before in basic specifications: The 383 cubic inch engine with two-barrel carburetor and single exhaust system is supplied on the Windsor. The same engine with four-barrel carburetor and single exhaust is used in the Saratoga, with dual exhaust optional. The 413 cubic inch engine is supplied on the New Yorker and Imperial with four-barrel carburetor and dual exhausts.

One man earns a living he never gets,  
and another gets a living that he never  
earns.



# My *Lathem* time recorder controls both payroll and job time

With my new Lathem, I can record Job Time directly on my workorder form, or on the Lathem Jobtime Card exactly suited to my needs. By using Lathem Payroll Cards, I keep my payroll records on the same machine used for Payroll Timekeeping. It eliminates tardiness, keeps track of the time I buy and sell. Helps me make a profit on every job. It can do the same for you!



Write today  
for full  
information

## LATHEM TIME RECORDER COMPANY

66 Third Street, N.W. Atlanta, Georgia  
GENTLEMEN: I'd like to hear more about the fabulous  
NEW Lathem Time Recorder.

NAME \_\_\_\_\_ TITLE \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_



Take it from me  
Save time  
Save money...

**ECCENTRIC VALVE  
SEAT GRINDING**

*is faster...better*

WITH

**HALL  
TOLEDO**  
MODEL EJ

HALL-TOLEDO's Model EJ Valve Seat Grinder, utilizing an exclusive, eccentric principle, assures quick, economical, perfect valve seating.

Whether you do your own work or have it done elsewhere, be sure it's HALL-TOLEDO equipment for factory approved precision. The Model EJ is designed especially for service on all automotive engines and will handle seats up to three inches in diameter.

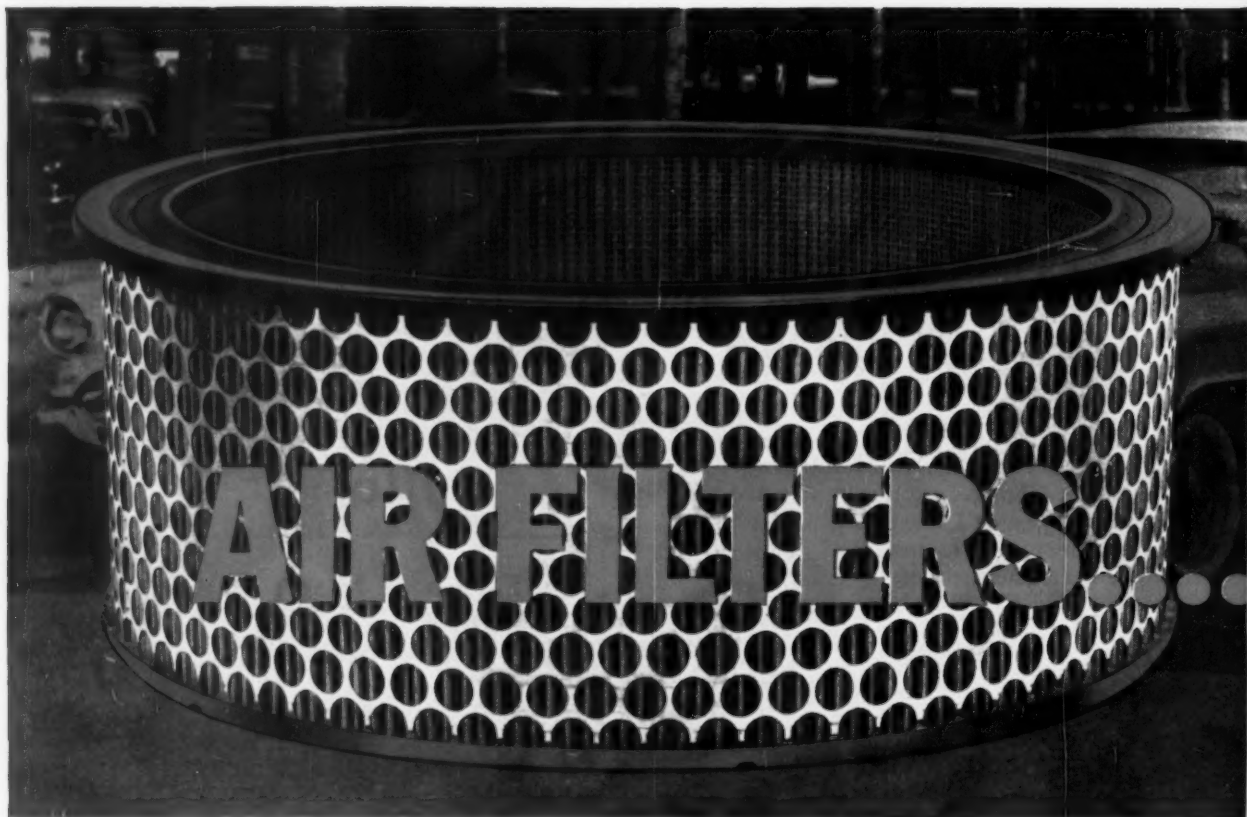
HALL-TOLEDO INC., 2931 South Ave., Toledo, Ohio  
Please send me free information on items checked.

☐ Valve Seat Grinders for Automotive, Diesel and Aircraft  
☐ Engines ☐ Valve Guide Reamer and Seat Inserters ☐ Expand-  
ing Pilots, Grinding Wheels ☐ Cylinder Hones ☐ Multiple  
Spindle Grinders for Factory Production

Name \_\_\_\_\_  
Address \_\_\_\_\_ State \_\_\_\_\_  
City \_\_\_\_\_

*Write  
NOW*



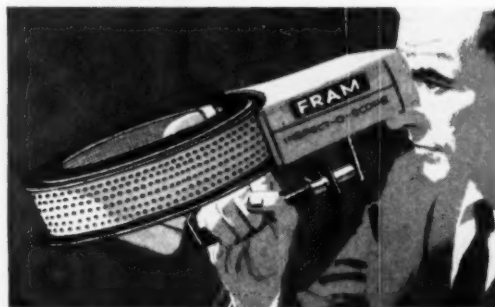


**THE NEED  
IS GREAT:**



**MOST NEW CARS** on the road, and millions of older cars, have replaceable carburetor air filters. These air filters must be changed regularly! Many need changing right now.

**THE PROFIT  
IS HIGH:**



**DEALERS REPORT PROFITS** of up to \$145 a month through the use of FRAM Inspect-O-Scope\* and Inspect-O-Light†! Customer sees clogged cartridge—sells himself on a new one!



## TODAY'S FASTEST GROWING SERVICE ITEM!



**DIRT CUTS GAS MILEAGE!** In some areas, soot and grit fall at the rate of 23 tons per month—per square mile. This dirt clogs air filters . . . chokes off power . . . cuts gas mileage up to 10%



**MAKE A DOLLAR-A-MINUTE** with FRAM Air Filters! They take such a short time to change that they actually earn you \$1.00 a minute! Stock the full line of FRAM Air Filter Cartridges now!



**DRIVERS CAN SAVE** up to 3¢ worth of gas on every gallon—with clean air filters! So you should check these cartridges frequently and replace them when necessary.



FRAM CORPORATION, Providence 16, R. I.

\* patented † patent pending



### Eliminates "BARE VALVE" HANDLING

- ALLOWS VISUAL COMPARISON WHEN HANDLING
- CUTS STOCK LOSSES DUE TO RUST FROM HANDLING
- KEEPS VALVES LOOKING FRESH AND NEW
- SHRINKS VALVE SHELF REQUIREMENTS
- APPEALS TO THE MECHANIC
- RECEIVES THE RMC EXTRA 10% STOCKING JOBBER DISCOUNT

- EASY TO OPEN  
Just hold head of valve and skin wrap over stem.



**OTHER RMC VALVE TRAIN PARTS**  
VALVE SPRINGS • SEATS • GUIDES • ROTOCAPS  
ROTO ASSEMBLIES • VALVE TAPPETS  
VALVE SPRING INSERTS

WAREHOUSED IN ALL PRINCIPAL CITIES

**RICH** MANUFACTURING CORP.  
BATTLE CREEK, MICH.

FOR NAME OF NEAREST  
DISTRIBUTOR WRITE TO:

## New Products . . . . .

*Continued from page 121*

### Soldering Manual

*All phases of  
soldering discussed*

**American Welding Society:** Publication of a manual on soldering has been announced. Containing 176 pages 81 illustrations and 34 tables, the book covers all phases of soldering, combining the theoretical with the practical. The twenty-one chapters deal with the following subjects: principles of soldering; solders; fluxes; joint design; precleaning and surface preparation; equipment, processes and procedures; flux residue treatment; inspection and testing; copper and copper alloys; steel; coated steels; stainless steels; nickel and high-nickel alloys; lead and lead alloys; aluminum and aluminum alloys; magnesium and magnesium alloys; tin; cast iron; precious metal coatings; printed circuits; and safety. The manual is equally useful to the amateur and the professional. Write: Edward A. Fenton, Tech. Sec., American Welding Society, 33 West 39th St., New York 18, N.Y. or phone PE 6-9220.

## New Olds . . . . .

*Continued from page 66*

ting use of interchangeable cylinder heads. The other is a new camshaft.

The 394 cubic inch engine is used on both the Super 88 and 98. Here compression ratio is 9.75 to 1. A four-barrel carburetor for maximum performance is used.

Hydramatic drive has been altered in detail to develop a slimmer case contour. This reduces the hump in the front compartment. In addition the amount of lubricant has been reduced to 9.5 quarts.

A better year round ride is provided by using shock absorbers filled with high viscosity index fluid.

**LOOK, MISTER!**  
**No Hands**



**It's Self-Gripping**

**CHAN NEL LOCK**  
**No. 410**  
**HEAVY-DUTY PLIER**

How's this for gripping power? You won't know your own strength 'til you grab hold with this heavy-duty self-gripping plier. The Channellock No. 410 HEAVY-DUTY is actually a combination plier-wrench . . . and it will get into tight places you can't reach with a pipe wrench. A mighty handy, multi-purpose tool with four jaw adjustments up to 1-1/8".

**ASK YOUR TOOL SUPPLIER FOR A  
CHANNELLOCK No. 410 HEAVY-DUTY PLIER**

BE SURE IT'S  
A GENUINE  
CHANNELLOCK



LOOK FOR THE  
TRADEMARK  
ON THE HANDLE

**CHAMPION DeARMENT TOOL COMPANY**  
MEADVILLE, PENNSYLVANIA

## New Pontiac . . . . .

*Continued from page 67*

Supplementing the engine versions mentioned are two special packages. One of these is a regular fuel "economy" engine. It is available in all series with Hydramatic drive, compression ratio 8.6 to 1. The second special package is a premium fuel version for all series, with either manual shift or Hydramatic drive. It has a compression ratio of 10.75 to 1. It is fitted with a three, two-barrel carburetor induction system. Both two-barrel and four-barrel carburetors have been improved.

The cooling system concept has been changed. Pontiac now has a divided-chamber water pump. It is designed to distribute water equally to each cylinder bank.

Improvement in ride and handling is said to result from changes made in the rear suspension system.

## Winter Service . . . . .

*Continued from page 71*

service. Why not sell them now?

You should now have your winter selling campaign underway. Direct mail pieces and advertising in your local paper pay off in sales. Advertising your shop's winterizing sales and services will bring in a surprising number of new customers. Regular customers should be contacted by cards on the advisability of having their cars checked and serviced for tough winter driving. At the shop or garage, point-of-sale merchandising such as signs and displays helps to interest the customer in additional services or purchases of winter items for his car.

However, while a great deal may depend on promotion and advertising efforts, once the prospect is in the shop the real selling is up to the serviceman. The amount of extra business a shop gets in the next months de-

pends on how well it promotes and sells for winter. A prize or bonus could be offered to the man who sells the most in sales and service items during your winter campaign.

When a customer pulls in for gas or a lube job advise him on the need for anti-freeze installation and a pre-winter tune-up. Once the hood is up then you can also start checking for worn parts. Your winterizing service

check will keep his car in top shape during the cold months ahead.

When anti-freeze is needed, drain and flush the car's cooling system. Open all pet cocks in the radiator and block to be sure corrosive and rusty water is completely drained out of the system. After the correct amount of anti-freeze has been installed run the engine until coolant is  
(Continued on page 128)



**\$10,784**  
in 1 Year  
**SERVICING  
RADIATORS!**

"The very least we can say about our Inland radiator servicing equipment is that we are delighted with it and the volume of business it has brought us. For instance, last year we grossed \$10,784 (net profit \$7,068.10) from our radiator department alone!"

—SIDNEY RADIATOR & GLASS SHOP,  
Sidney, Mont., (Pop. 3,987)

Advertised in  
**POST LIFE**

Why send radiator jobs away? Add an extra \$8,000, \$10,000, \$12,000 or \$15,000-a-year with Inland's factory-method radiator servicing.

**JUST CONSIDER:** (1) There is an ever-growing number of autos, trucks and tractors in your area, (2) Modern cooling-system pressures have been increased to the point where radiators require far more frequent servicing.

**INVESTIGATE**—Have us mail you full details:

- Photos and statements from Inland-equipped shop owners,
- Inland's "Pays-For-Itself" payment plan,
- Inland's free factory school which trains you or your man quickly,
- Inland's proved merchandising and selling helps.

### MAIL TODAY

New free 48-page book, "Blueprint for Profits," tells about many making an EXTRA \$8,000 to \$15,000 a year servicing radiators. Complete with illustrations, descriptions and prices of required equipment. Popular "Pays-For-Itself" purchase plan. Invest a minute to mail the coupon—the rewards can be amazing! Send today!

**INLAND MFG. CO., 1108 Jackson St.**  
Dept. MA-10, Omaha 2, Nebr.  
"SOLD EXCLUSIVELY BY MAIL"

INLAND MFG. CO., Dept. MA-10, Jackson St., Omaha 2, Nebr.  
Please send new free book, "Blueprint for Profits."

FIRM \_\_\_\_\_  
(PLEASE PRINT)

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

BY \_\_\_\_\_ TITLE \_\_\_\_\_

If dealer, make of car sold \_\_\_\_\_  
Are you now operating a radiator dept.? ☐ Yes ☐ No



## Winter Service . . . . . Continued from page 127

fully circulated. Check to see if more coolant is needed. It is a good idea to add a chemical sealant to help prevent leaks.

Check all hose for soft and worn sections. Replace if they are defective. Check the hose clamps also and tighten. Check the pressure cap and seal and be sure the thermostat is work-

ing correctly. Check the heater hose and be sure heater is operating properly. A pressure tester will help uncover leaks in the radiator or around hose connections.

Tighten cylinder head bolts using a torque wrench to the designated tension. Examine the water pump for leaks, excessive

end play or looseness of the shaft in the pump. Check the condition of the fan belt. If it is frayed or cracked replace it.

Always advise your customer on the need for a change to winter grade oil. Also oil filters, gas filters and air filters may need changing. The transmission, rear axle, steering unit and joints should be thoroughly lubricated. While the car is being lubricated, check the muffler and exhaust pipe for leaks and kinks. These parts are subject to the damaging effects from salt and temperature changes all winter. They become rusted and may develop carbon monoxide leaks. Check the exhaust line mountings and free-up the heat damper valve. Check the springs and shocks to insure safe and comfortable driving this winter.

During the winter months the front end of the car will really take a beating. It is important that wheels are aligned and balanced. If not taken care of, uneven tire wear will occur. Rotating tires and proper inflation add many miles to the tire life. Worn tires should be replaced. While checking the tires, suggest the need for snow tires and chains for winter.

Winter driving taxes the brake systems to their limit. A check up will help prevent expensive replacements or more serious trouble later this winter. A brake check up should include flushing the brake system and installing new brake fluid. Remove all wheels and examine brake lining, drums, wheel cylinders and hoses. Replace or repair as needed. Be sure to check the oil seals and repack wheel bearings. Check the hand brake lining and adjust if necessary. Free up emergency brake cables.

Cold weather means hard starting for your customer's car. A complete tune-up or overhaul of the engine will insure top performance and economical operation.

*(Continued on page 130)*

### CASH IN ON THE BIGGEST WATER PUMP SEASON IN HISTORY!

# McQUAY- NORRIS

## WATER PUMPS

All-New,  
Quality-  
Tested



Yes, 1959 promises to be the biggest and most profitable water pump season in America's motoring history. Hurry and get in on this booming business!

### NEW ASSEMBLY METHODS MAKE McQUAY-NORRIS WATER PUMPS BETTER THAN EVER!


We have developed and are using new automatic assembly machines to position and align the insides of water pumps. Automatic "stops" assure utmost precision in water pump assembly . . . make sure that bearings and impellers are positioned precisely . . . guarantee that seals and springs are compressed to just the right amount of loading. You can be sure that McQuay-Norris water pumps are quiet and leakproof, and will live to a ripe old age.

Don't fail to see your McQuay-Norris wholesaler for full details of the most attractive water pump bonus plan ever offered!

McQUAY-NORRIS MANUFACTURING CO., ST. LOUIS, MISSOURI

# DDC

**DELCO DRY CHARGE**




# AAC

**SPONSORS ART CARNEY**



# ON NBC TTV



Art Carney's back and Delco's got him. It's a brand-new show that's a cinch to set brand-new Delco Battery sales records for you. "The Art Carney Show" starts October 2 and will be seen in over 17,000,000 homes. Make sure your Delco Battery stock is up enough to handle the increased demand. *Frankly; who else gives you this kind of battery sales support?*

QUALITY BUILT BY DELCO-REMY, DISTRIBUTED THROUGH





## "People can reach us when they need us only through the Yellow Pages"

says J. Falton Engdahl, Mgr., Engdahl Top & Body Co., Omaha, Neb.

"Nobody needs us until they have trouble. And then they turn to the Yellow Pages—and see our ad. That's why the Yellow Pages attract more business for us than any other kind of advertising.

"We know our Yellow Pages investment pays out. For one thing, as we increased the size of our

ad, we increased the business it brought in. Also, the Yellow Pages is the only place we advertise our house trailer rebuilding service, and its growth can be traced straight to our Yellow Pages ad."

Make sure when people need your services that they know *where* to find you. Only the Yellow Pages tells them 24 hours *every* day. The Yellow Pages man can help build a program of **AWHERENESS** that will help build business for you. Call him at your Bell telephone business office today.

**ENGDAHL TOP & BODY CO Inc**  
614-16-18-20 MO 18



**John B. Engdahl**

PHOTO  
**AT. 5944**

Night Phone  
PG 4386  
PG 3585  
RE 5834

*Rebuilding*

*"If Engdahl does it, it's done right!"*

Forty-two years of service, quality work and fair prices have satisfied an endless number of customers. Complete Service for Repairing and Rebuilding Damaged Cars and Trucks.

- FRAMES STRAIGHTENED
- GLASSWORK
- TOPS RECOVERED
- UPHOLSTERING
- SEAT COVERS
- FENDER & BODY WORK
- PASSENGER & TRUCK REPAIRING



**AUTO BODY**  
AND  
**HOUSE TRAILER**  
REBUILDING

**YELLOW PAGES DISPLAY AD** (¼-page shown reduced) and listings under *Mobile Home Repr., Auto Painting and Auto Air-Cond. Equip.* draw plenty of business for this 43-year-old Omaha top and body company.

Nothing builds business like **AWHERENESS**—and nothing builds **AWHERENESS** like the Yellow Pages—the buying guide that tells people **WHERE** to buy.

## Winter Service . . . .

*Continued from page 128*

When adding anti-freeze or performing a tune-up, always check the battery. Check the cells with a hydrometer. The battery may need to be replaced or recharged. If the battery is in good condition, check the cables and terminals for corrosion. Wash the battery with a solution of baking soda and water. This will remove any corrosive acids, and will prevent current leakage.

Before your customer pulls out be sure that windshield wipers are in good condition and that the headlights, tail lights and turn signals are OK.

Really push your winterizing campaign this fall. Use every means possible. Your efforts in promoting winter service and sales will pay off in increased business and profits.

## New Dodge . . . . .

*Continued from page 59*

In addition, Dodge offers the D-500 power package for high performance, consisting of the 383 cubic inch engine with ram induction system. Ram induction literally forces air and fuel into the engine when the throttle is opened. But it does not take any power from the engine for its operation, and it has no moving parts to get out of adjustment. Ram induction employs mass inertia and sonic resonance effects to obtain intake tuning.

The D-500 package also is made available on the special Phoenix models of the Dart. All versions of Dodge V-8 engines have a compression ratio of 10 to 1. Single exhaust is standard on Matador and Polara models.

Both PowerFlite and TorqueFlite drive are offered as op-  
(Continued on page 140)

Actual X-ray photo of SKIL Model 75 Heavy-duty  $\frac{1}{4}$  inch drill.

## LET'S FACE IT... THE MOTOR MAKES THE DRILL

This is not to minimize the importance of bearings, gears, chuck, switch and housing.

But the fact remains... the motor makes the drill.

And the compact,  $\frac{1}{4}$ -inch Skil Model 75 drill has the motor to drill holes in all kinds of materials ... and drill 'em faster.

Here's proof: In a controlled laboratory test, with 350 pounds pressure applied vertically, a Model 75 pierced  $\frac{1}{4}$ -inch steel in 1.26 seconds. Comparable drills stalled out with only 250 pounds of load.

Yet with all its power the Model 75 is more compact, weighs less than most comparable  $\frac{1}{4}$ -inch drills. Comes in 7 models with speeds to match any material requirement exactly.

Ask your Skil distributor for a demonstration. Or mail coupon.

*PS: Low cost standard duty Model 138 Skil  $\frac{1}{4}$ " drill also available for lighter duty work.*



...AND SKILSAW  
POWER TOOLS

### FREE! 58-PAGE SKIL INDUSTRIAL TOOL CATALOG

SKIL Corporation, Dept. MQT-100 In Canada:  
5033 Elston Avenue 3601 Dundas St., West  
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- ☐ Please send name of nearest distributor.  
☐ Please send Free SKIL Power Tool Catalog with detailed information on over 100 SKIL Industrial Tools.

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Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

Zone \_\_\_\_\_ State \_\_\_\_\_



carburetors and dual exhaust is offered as optional on the Adventurer only. Premium fuel is recommended for all engines.

In the interior there is a four-bank instrument panel. The padded instrument panel is standard on Adventurer, optional on FireFlite.

Manual steering is standard, power steering optional on all

models. Brakes are of the improved three platform, center-plane type, 11 × 2.5 inches on all cars; 12 × 2.5 inches on Adventurer when the ram-induction engine is specified.

For the power train, the three-speed manual shift transmission is standard on FireFlite; TorqueFlite drive is standard on Adventurer.

Continued from page 62

proved AutoPilot with added automatic features; the optional automatic swivel seat; 6-way power seat with easier multi-directional control.

A noteworthy optional feature is the system of vacuum-operated door locks that assures secure locking of doors while car is in motion. It is available in two types: automatic and manual. The automatic type—for four-door models—locks doors whenever the engine is running; the other is switch-operated.

The 90 degree V-8 engine remains substantially the same. It has a displacement of 413 cubic inches, compression ratio of 10 to 1, and is fitted with four-barrel carburetor and dual exhaust system. Maximum horsepower rating is 350 at 4600 rpm., maximum torque is 470 pounds feet, at 2800 rpm.

Among the engine features are: quieter timing chain; heavily reinforced generator bracket; improved oil pressure relief valve; 15-micron fuel filter with corrugated paper element; nylon distributor vacuum lines.

## New Cadillac . . . .

Continued from page 55

wear and eliminates brake adjustment. The brake pedal is maintained with the same height and feel as when the car is new.

The compression ratio remains at 10.5 to 1 and the horsepower is unchanged in Cadillac's two power plants—a 345 horsepower engine for the Biarritz, Seville and Brougham and a 325 engine for all other models. The 345 horsepower engine can be had as optional equipment in all other models.


Improvements to this year's engine include a new fuel flow oil filter with disposable cartridge which filters engine oil and a new flexible oil ring with side sealing for increased oil economy.

# SPECIAL! LIMITED TIME ONLY!

# SAVE \$5

ON *Cordomatic's*


## TWIN-PACKAGE OFFER



**One for the home!**

**NEW!**  
Handy - Lite Reel. Perfect for workshop, patio — all around the house.  
reg. price \$8.95

MODEL 500



**One for business!**

Drop Light Reel. Rugged, heavy-duty reel for use in the shop or garage.  
reg. price \$18.95

MODEL 800

Wonderful chance to own two of America's finest power and light reels at a big saving. In both, the cord locks at any desired length . . . retracts into case automatically . . . ends tangle and hazards of shock and tripping. Each has exclusive phenolic pistol grip handle with built-in electric outlet. Unit mounts easily on wall or ceiling.



Reg. Price \$27.90  
Both Models

**SPECIAL \$22.90**  
SALE PRICE

**YOU SAVE \$5.00**

LOOK FOR THEM IN THIS **PORTABLE TWIN-PACKAGE**

**HURRY!** Offer good for limited time only. See your jobber today!

*Cordomatic*

17th and Indiana Ave.  
Philadelphia 32, Pennsylvania

# RING UP AN **EXTRA** SALE WITH EVERY CUSTOMER

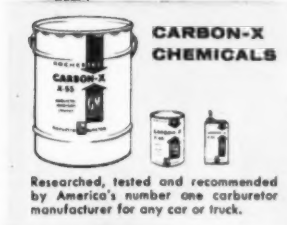
## Sell the Service Line That's Going Places Fast!

Every time a customer drives in . . . drive home an extra sale! The Rochester-GM Carburetor Service Line is an expanding line that helps you make more sales—more profits with everything from overhauls to additives. It's the reliable Service Line—backed by the makers of Rochester-GM Carburetors—world's largest manufacturer of original equipment carburetors. And it's easy to order . . . easy to sell. Order today! *Rochester Products Division of General Motors, Rochester, New York.*

**YOUR EXTRA SALES START WHEN YOU CALL YOUR UMS DISTRIBUTOR**



**PLUS . . .**



Researched, tested and recommended by America's number one carburetor manufacturer for any car or truck.



Everything you need to perform factory-recommended, on-the-car carburetor clean-outs that are faster, easier.



New hot idle compensator fits all cars; cures stalling due to excessive underhood heat. Quickly, easily installed.



Up-date your customer's fuel system with original-equipment quality replacements for better performance.



Contains just the right parts to perform top-quality carburetor overhauls. You waste no time, waste no parts.



Clean and condition fuel systems of any car with this four-way tank additive. Priced for quick sales and profits.



America's  
number one  
original equipment  
carburetors

## ROCHESTER CARBURETORS

## New Mercury . . . .

*Continued from page 65*

more engines capable of operating on regular fuels.

A number of features are common to all engines. One of these is an improved throw-away fuel filter with pleated porous impregnated paper element. Major item is the new distributor with the breaker plate eccentrically-mounted and riding on three nylon buttons. Too, there is an integral wire connection from the coil, eliminating the external terminal.

A major advance is the adoption of two printed circuits for instrument cluster lighting and gages.

The battery case is of new design to permit the use of a hold-down clamp at the bottom edge. This eliminates the conventional top clamping arrangement.

The chassis frame is extremely rigid, employing box rails and

five cross members. Large rubber bushings are provided at the front suspension lower arm attachment to the frame.

Brakes have been improved in detail. Lining thickness has been increased. Six rivets have been added to each shoe to hold the linings more securely. Also extra hold-down springs and cross retractor springs have been added.

## Lincoln for 1960 . . .

*Continued from page 63*

miere and Lincoln both have two-door and four-door hardtops, and a four-door sedan.

The 430 cubic inch engine for these cars remains unchanged in basic design detail but embodies numerous refinements to effect smoothness, quietness, and economy. One of the major changes is the elimination of the four-barrel carburetor.

Quieter operation is effected by a redesigned air cleaner. A

feature contributing to smoother operation is the improved distributor. Here the breaker plate is mounted on three low-friction nylon buttons, these do not require lubrication.

Engine compartment wiring is simplified by coordinating all major fuses and circuit breakers in a central power box.

The power steering pump now is mounted and driven directly off the crankshaft, eliminating belt slippage and providing more constant pump operation.

## Automatic Drive Improved

The twin range automatic drive has been improved. First of all there is a new governor to provide a smoother upshift; two new pressure relief valves in the front clutch to eliminate any tendency for the clutch to bind when the car is rocked. The transmission extension is made of cast iron and contains a hydraulic damper on the rear end.

## I'M TIRED OF BEING \*SOAKED!

\*WITH BIG  
JACK REPAIR  
BILLS



Aren't you, too?

It's easy to  
Repair-it-yourself  
with a Jack-Pack Kit.  
Prices start at about \$2.50

*Order from your jobber*



or write for FREE FOLDER "Facts on Jacks"  
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## ALL IMPORTED CAR PARTS

Send us your order now, regardless of size,  
and get immediate delivery.

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## SEAL LEAKS! STOP RUST!



**DOUBLE  
ACTION  
RADIATOR  
CEMENT**

...MADE FOR THE PROFESSIONAL!



This famous product works twice as hard . . .  
sealing leaks AND preventing rust. Fast! An  
enemy to leaks and rust, BUT won't hurt  
copper, bronze, brass, aluminum, rubber.

SEE MORE PERMATEX  
PRODUCTS FEATURED ON PAGE THREE

# Aim for 41 million 2-headlamp cars!

That's your market . . . 41 million automobiles with 2-headlamp systems! With Guide T-3 Powerbeam 50 Headlamps, you can offer *more light . . . aimed right* to any motorist driving a 2-headlamp automobile.

Guide's new Powerbeam 50's offer 50 more feet of light on the right side of the road. Powerbeam 50 Headlamps give greater lower beam throw like the newest cars on the road. This more powerful beam extends nighttime vision by 25%—beamed to the point where light is needed most!

Another big difference every motorist will notice . . . Powerbeam 50 Headlamps project a smoother beam, a better spread of light. There's more smoothness with the improved lighting from the 50-watt beam. Powerbeam 50's intensify the light, distribute the light better to give bright, over-all illumination!

Three Precision-Ground "Guide Points" built into every Guide T-3 Powerbeam 50 Safety-Aim Headlamp make all the difference in the world. They insure quick, accurate daylight aiming in minutes. Aim for the big replacement market of 2-headlamp cars. Remember—Guide is original equipment on more new cars than any other brand.

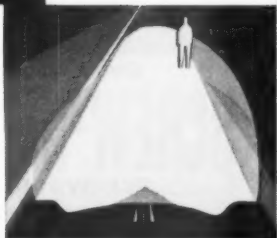
AC SPARK PLUG 

The Electronics Division of General Motors



Fifty Feet of Added Light  
on Lower Beam

Improved Light Pattern for  
Better Light Distribution



*Guide* **T-3**  
**POWERBEAM 50  
HEADLAMPS**



**AVAILABLE NOW FROM YOUR SUPPLIER**



## Quarter Panels . . . . . Continued from page 43

place. In most cases it is advisable to push out the damaged panel with a jack before removing, to aid in the fitting of the adjoining panels when installing the new quarter section. To find the easiest and swiftest method of replacement, it must be decided if removal of the rear window is necessary.

In places where the panel is to be removed at existing seams in the construction, use an air gun with a spot weld breaker type of chisel attachment to separate the sections. If no power hammer is available, use a 1/4 inch drill and bit to remove the old spot welds. If the seams are of the hidden type (covered with solder at the

factory) melt away the solder with a torch reducing flame and clean off area with a wire brush. Then break the spot welds.

An air hammer fitted with a panel cutter is recommended for cutting the top of the section away from the body. When the top and sides have been severed from the body, force the panel out and down as far as it will go. Strike sharp blows with a heavy

(Continued on page 140)

## Champion REBUILT CARBURETORS are 100% Pre-Adjusted to save you valuable TIME and MONEY!

Sell the line that's 100% QUALITY-CONTROLLED! CHAMPION-QUALITY lets you turn out more jobs in less time. Each unit is 100% PRE-TESTED under actual operating conditions to assure perfect performance without time-consuming adjustments. You install it—and forget it. Your customers leave satisfied—and stay that way!

Write for name of CHAMPION jobber in your city  
**Champion Parts Rebuilders, Inc.**  
1314 W. 21st St., Chicago 8, Ill.

WIN THE WAR ON RUST!



**HEAVY DUTY  
RADIATOR CLEANER**

...MADE FOR THE PROFESSIONAL!

Radiator clogged with rust and scale? Swoosh it clean as a whistle in no time with Permatex. This powerful product restores good-as-new circulation.

SEE MORE PERMATEX  
PRODUCTS FEATURED ON PAGE THREE



## TUNEUP FOR YOUR B&D TOOLS



For genuine Black & Decker repairs check Yellow Pages under "Tools-Electric" for address of nearby Black & Decker

### FACTORY SERVICE BRANCH

Free tool inspection when requested • Genuine B&D parts used • Factory-trained technicians handle all work • Standard B&D Guarantee at completion of recommended repairs • Fast service at reasonable cost.

Or write for address of nearest of 48 branches to:  
THE BLACK & DECKER MFG. CO., Dept. S5210, Towson 4, Md.

**Black & Decker**  
QUALITY ELECTRIC TOOLS

## Grips the screw!

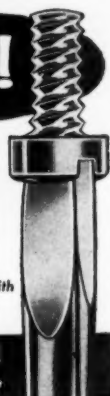
Drives it too!

Quick-Wedge

## SCREW-HOLDING SCREWDRIVER

2" to 14" blades. 4 bit sizes. Available with shockproof plastic covered tubing. Unconditionally guaranteed.

**ASK FOR IT AT YOUR DEALER**  
Kedman Co., 233 S. 5th W., Salt Lake City



# NEW PRODUCTION EFFICIENCIES MAKE THE FAMOUS MODEL K-3000 BAY BUMPER JACK

AVAILABLE AT  
DRASTICALLY REDUCED PRICE



**NOW — no reason remains (not even price) to keep you from owning the BAY AIR-OPERATED bumper jack with full 5-year guarantee of unmatched, trouble-free performance**

The ease and convenience, the economy and work speed of a Bay Pneumatic Bumper Jack can now be yours at a new, unheard-of low price — backed by a full five-year guarantee. Bay engineers — producers of the world's most widely used air lift — have established new production efficiencies, bringing you the same unmatched Bay Bumper Jack AT A DRASTICALLY REDUCED PRICE LEVEL USUALLY ASSOCIATED WITH MINIMUM-SERVICE UNITS.

Shops have always been money ahead with a Bay... no maintenance problems, no downtime for lengthy, costly repairs.

The Bay Air-Operated Bumper Jack eliminates a common bugaboo of garage work by engaging the bumper brackets instead of bumpers, avoiding damage to bumpers and grills. Its design is flexible — it cannot be matched for ease and facility with which it will LIFT ALL CARS, TODAY AND TOMORROW. Its features include a 15½" reach from upright air cylinder to front of the lifting saddles. The saddles may be spread to engage cars at desired points from a distance of 24" apart to 54" apart. AND THEY ROTATE to seat automatically and perfectly. Lifting range is from 8¼" to 31¼". Capacity over 3,000 lbs. Equipped with two-way lever valve, automatic safety locks and steel wheels.

**COMPARE AND YOU WILL WANT ONLY BAY — ORDER YOUR BAY BUMPER JACK FROM YOUR JOBBER TODAY!**

## FIVE-YEAR GUARANTEE

The Bay Air-Operated Model K-3000 Bumper Jack is guaranteed to be free from defects in material and workmanship for a full FIVE YEARS from the time of purchase. This unprecedented length of guarantee is due to the unique construction of the Bay Bumper Jack, which affords sealed protection from dust and contamination, and is based on years of experience. The Bay Air-Operated Bumper Jack is always ready for use — wherever an air hose can reach, with no costly repairs for the user.

# BAY

MANUFACTURING

DIVISION OF LIFE PRODUCTS CORP.  
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Cable Lapreh, New York

# ***How to save time***



# and win friends

## use **BEAR<sup>®</sup>** masking tapes

For every masking and baking operation, BEAR Tapes go on fast, stick fast, strip clean...give perfect color separations on straight lines and tricky contours. To save time, money, and win friends—use BEAR Quality Tapes in your shop.

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For sealing access openings to door and window handles, for electrical installations of wiring and battery cables, and every taping job in your shop...enjoy the advantages of superior quality BEAR Tape.

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## Quarter Panels . . . . . Continued from page 136

sledge hammer to break away the welds on the wheel house and trunk floor.

Straighten all the inner panel edges such as the bottom of the wheelhouse and the inside of the trunk drain channel. Grind the areas that mate with the new panel to remove burrs, irregularities, and to clean the welding

areas of all paint and dirt. Carefully measure and trim the new panel to fit snugly in place. Align to the door and then work rearward holding the panel in place with vice-grips and welding clamps. Align new panel to the deck lid and rear body panel last, then re-check all along the mating edges to make sure panel is

still properly aligned.

With the panel aligned to the adjoining section, tack in a few weld spots using brass or eutectic rod.

Check all the seams for proper fit after the tacking operation. If anything has shifted or is misaligned, it may be corrected by melting the soft tacks in the troubled area. When the panel is finally fitted and tacked in place, weld the stress point with steel rod to prevent future cracks. Periodically checking the door and deck lid openings, solidly braze or weld all the necessary seams.

Thoroughly clean the work areas with a grinder and then tin the metal so filler solder may be applied. Use a soft flame to tin and solder to prevent distortion in the metal. Melt the solder onto the work and smooth out with a paddle dipped in wax. A vixen file and holder to file the solder to the proper contour and shape should be used. Finish grind the areas and the job is ready to be sent to the paint department.

A few suggestions to aid installation are: Never cut the damaged panel off the car with a torch. The heat will cause severe distortion; may start fire.

## New Dodge . . . . .

Continued from page 130

tional equipment on Matador models; only TorqueFlite is available as an option for Polara models.

The new Dodge Dart offers four different engines in the line. Noteworthy, is the 225 cubic inch Six. It has a bore of 3.40 inches by 4.125 inch stroke, and a compression ratio of 8.5 to 1.

On V-8 models of the Dart, they offer the 318 cubic inch engine in two versions: two-barrel carburetor on Seneca and Pioneer models; four-barrel carburetor on the Phoenix model. Both versions have a compression ratio of 9 to 1.



**AERO-SEAL** Jet clamps are of such high quality material, and so ruggedly built that they will outlast a car! A new patented feature permits faster installation and removal. Just a few turns and the worm drive screw tightens the band snugly. It's on for keeps, and no amount of vibration will shake it loose or snap it open. Other clamps may LOOK like AERO-SEALS, but no others can equal their quality. No premium price for JETS. REGULAR AERO-SEALS AVAILABLE IF DESIRED.

**Aero-Seal JET**  
QUICK-ATTACH HOSE CLAMPS

BREEZE CORPORATIONS, INC., 700 LIBERTY AVENUE, UNION, N. J.

## New Chevrolet . . .

*Continued from page 56*

follows: 283 cubic inch with four-barrel carburetor; the 348 cubic inch V-8 with 4-barrel or triple, two-barrel carburetors, as well as the regular and special camshaft versions. These options are the same as last year.

Mufflers of improved construction and more corrosion-resistant are supplied with V-8 engines.

Apart from the refinements in the optional four-speed transmission, all regular equipment and optional transmissions are continued without change.

Service brakes have been redesigned to make operation easier by increasing the inside diameter of front wheel cylinders by  $\frac{1}{16}$  inch.

Shock absorbers are improved by replacing the steel piston skirts with nylon skirts, to reduce scuffing.

A new voltage regulator, with a flatter temperature compensation curve, results in less variation in system voltage with changing temperature.

## Valiant for 1960 . .

*Continued from page 51*

weight of the rotating field. Simplicity of design contributes to

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**SALES CAREER:** Nation-wide automotive parts mfg.-distributor offers depression-proof sales opportunity. Protected territories with established accounts now available. Average earnings \$8,000 to \$10,000 per year. Great opportunities for advancement to executive positions. Write today giving background & sales experience. Box 8, MOTOR AGE 5601 Chestnut St., Philadelphia 39, Pa.

**"PART TIME WORK IN ALL MARKETING AREAS:** man mechanically inclined to learn to demonstrate a simple, but revolutionary invention that positively eliminates all automobile wheel balancing and tire truing devices, cures "out of round" tire effects also, in less than 5 minutes per wheel. Spare time can earn up to \$50.00 per day. No investment. Factory furnishes elaborate training program and all equipment with no obligation to the right man. This is an unusual opportunity to train yourself at no cost to fill a full time position if you wish. Write, giving your background and other information for our consideration if you can qualify. J. Lavinger, B & B Mfg. Co., Box 818, Sioux City, Iowa."

long life. The alternator has only two carbon brushes contacting smooth slip rings. A ball bearing supports the pulley end while a needle bearing is used at the opposite end. Both bearings are lubricated for life.

The alternator does not require either current regulator or cut-out. The only external control is a small, simple voltage regulator.

**Change Tires the FAST, EASY way!**  
**KEN quality**  
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**T-11R.** Dual steel-rubber. Replaceable rubber head. Loosens rusted beads. Wt.:  $2\frac{3}{4}$  lbs.

**T-11.** Standard for all-around tire work. Long tapered end. Wt.:  $4\frac{1}{2}$  lbs.

**T-33R.** Combination steel and rubber. Wt.:  $2\frac{3}{4}$  lbs.

**T-31.** Replaceable rubber heads. Wt.:  $2\frac{3}{4}$  lbs.

**SEE YOUR JOBBER**  
 SAVE LABOR, TIME AND MONEY. INSIST ON KEN TOOLS. Finest Quality and Design. Largest Exclusive Mfgs. of Tire Changing Tools and Equipment.

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 AKRON 5, OHIO



**.22 Cal. Automatic**  
**\$6.95**

The skilled hand of the German gunsmith is responsible for this .22 caliber, 6-shot repeater, automatic self-ejecting clip. Just 4" long, fits easily into pocket or purse. Ideal for sporting events, stage use (not available to Calif. residents). Comes for \$6.95 ppd. from Best Values, Dept. A-27, 403 Market, Newark, New Jersey.

**Grease Gun**

**12,000 Lbs. PRESSURE**

by **UNIVERSAL**

MANUFACTURERS OF LUBRICATION FITTINGS AND ACCESSORIES

For our new Automotive Catalog write . . .

**UNIVERSAL LUBRICATING SYSTEMS, Inc.**  
 Automotive Division • Oakmont, Pa.

**MOTOR**

**AGE**

**The Quality**

**Magazine**

**of the**

**Automotive**

**After-Market**

## Ignition Theory. . . .

*Continued from page 44*

speed. The study of detonation is another example of our approach to advanced training."

Laboratory equipment, formerly used only in research work, has been modified for group instruction. Typical are thermocouple spark plugs used in conjunction with special pyrometers. These permit temperature readings to be projected onto a movie screen.

The basic concept of "ignition reserve" (or safety factor) is covered in detail during these sessions. Referring to the voltage available from the ignition system as  $V_a$ , and voltage required by the spark plug as  $V_r$ , "reserve"  $R$  can be considered as the difference between these factors:  $V_a - V_r = R$

While available voltage must obviously be at least equal to required voltage to produce an ig-

nition spark, trouble-free ignition performance demands design and maintenance practices which assure relatively large reserve values. In fact for most current automotive systems, Champion engineers have found that voltage requirement levels higher than about two-thirds "open-circuit" available at constant speed may result in spark plug misfire during peak accelerations.

What factors affect  $V_a$  . . . the amount of voltage which the ignition system can make available?

Consider first that an ignition coil produces only the voltage needed to fire to ground. Only at "open circuit" (with a lead off its spark plug and ungrounded) is the coil able to produce its full potential. Open circuit voltage decreases, of course, at high speed because of the shorter time available for coil saturation. When the coil is "loaded," how-

ever, with partial short circuits, the potential is limited to considerably lower levels.

In the demonstration, the effects of deposits normally accumulated in a few thousand miles of slow speed driving are simulated in a few minutes. How? By gradually lowering shunt resistance placed in parallel in the ignition system.

In addition to observing the limiting effects of deposits on coil output, the class is shown the results of other factors such as leaking condensers, burned points or improper spacing.

Voltage required to fire the spark plugs at various speeds and loads is also measured with a test vehicle on the chassis dynamometer.

Thermocouple plugs are used to illustrate the proper application of heat range principles as well as the improved temperature gradients achieved with projected core nose plugs.

## We'll Prove the DIFFERENCE

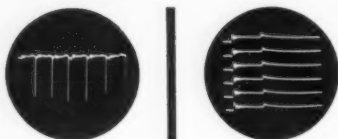


**DU MONT**

**EnginScope\***

\*Trademark

Automotive Test Equipment Division  
**ALLEN B. DUMONT LABORATORIES, INC.**  
750 Bloomfield Ave., Clifton, N. J.



We invite side-by-side comparisons of the fabulous Du Mont EngineScope with any other make and model of engine analyzer — scope or otherwise. Only EngineScope has a full trace for each cylinder. We'll show you why this patented system provides more information, more clearly, than the single line parade sweep or any other system devised. Write today to arrange for a free demonstration in your place of business or for detailed literature.

T. J. CONNORS, JR., SUPERVISOR OF  
AUTOMOTIVE EQUIPMENT,  
CONN. RAILWAY & LIGHTING  
COMPANY, WRITES:

**"HELI-COIL" INSERTS**  
SAVE US  
**\$315 Per Engine"**



Operating 253 buses in five cities, Mr. Connors' company follows the most advanced engineering practice in reducing maintenance and repair costs. In reconditioning aluminum upper crankcases of gasoline engines, his company uses Heli-Coil Inserts . . . with major savings.

Mr. Connors writes:

"For permanently repairing worn and stripped threads in 116 holes in each casting with Heli-Coil Stainless Steel Inserts it costs us only \$85.00 per engine—including labor. That's a big saving over the \$400.00 it would cost for a new casting."

Heli-Coil Stainless Steel Inserts may offer you comparable savings. They are stocked nationally by automobile and industrial distributors. Write for full information and distributor list.

\*Reg. U. S. Pat. Off.



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3010 SHELTER ROCK LANE, DANBURY, CONN.



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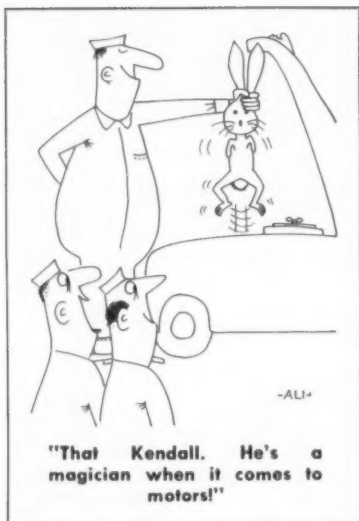
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# THE LAST



# LAFF



"How old are you, sonny?"  
"I don't know, sir. Mother was twenty-one when I was born, but now she is only twenty."

He: "Why are you letting me take you home?"  
Beautiful One: "My father hasn't had a good laugh in years."

Boss: "Where is the book-keeper?"  
Clerk: "Gone to the races boss."

Boss: "What? In the middle of our annual audit?"

Clerk: "Yes, sir. It was our only chance to balance the books."



Ever notice how dogs win friends and influence people without even reading books?



Agent: "Sir, I have something here which will make you popular, make your life happier, and bring you a host of friends."

Mechanic: "I'll take a quart."

One payday, Private Stone received 50 cents too much. The next payday the paymaster deducted 50 cents.

"Excuse me, sir," said Stone, "I'm 50 cents short."

"You didn't complain last payday."

"No sir. I don't mind one mistake, but when it happens twice it's time to say something."

Animal Doctor: "What's the trouble?"

Kangaroo: "I don't know. It's just that lately I don't feel jumpy."

Some gals live a date-to-date existence.



In jai alai  
**CONTROL**

is imperative!



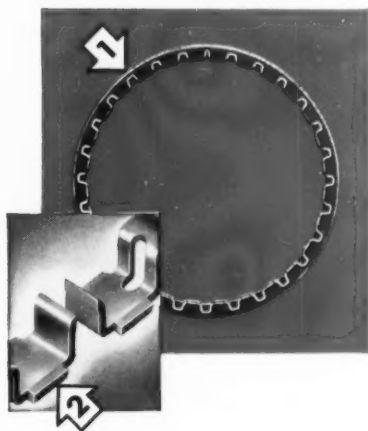
and in cars,  
trucks and tractors

**OIL CONTROL**  
is imperative!

**Sealed Power KromeX piston ring sets with  
stainless steel oil rings control oil!**

In just two short years *the* stainless steel oil ring has won acceptance with mechanics and car manufacturers. It comes in fast, controls oil even under high vacuum conditions or in tapered and out-of-round bores.

**Just one of the reasons**



They hold their fit in the cylinder bore. Sealed Power stainless steel oil rings are self-expanding. The new end-abutment design gives them the greatest flexibility ever built into an oil ring.

When compressed in the cylinder, the correctly engineered number of spring tension points provide uniform outward pressure—*without any back-up springs or shims.* (See arrow No. 1)

An equal number of sturdy shoulders supporting each steel rail produce complete contact with the cylinder wall. (See arrow No. 2)



SEALED POWER CORPORATION • MUSKEGON, MICHIGAN

**Sealed Power KromeX Ring Sets**

INSIST ON THE BEST . . . WHY SETTLE FOR LESS



# Thermoid Fan Belts go over *BIG*

... because there's absolutely no stretch. Pre-stretching prevents sagging and premature wear. Neoprene covers resist high under-hood temperatures, abrasive road dirt, oil and grease. Just 32 sizes cover 96% of your market. You have less inventory ... faster turnover ... and make more money.



**Thermoid  
FAN BELT**

MADE BY THERMOID, TRENTON, N. J. U.S.A.  
**V-122**

Other high quality Thermoid Products ... Modernized to meet modern driving conditions.



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Brake Lining and Bonded Shoes

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